Vol. 22, No. 4 APRIL, 1930

Journal of Home Economics

FOOD HABITS OF THE ESKIMO PEOPLE OF ST. LAWRENCE ISLAND AS ASCERTAINED BY THE BUNNELL-GEIST EXPEDITION

LOLA M. CREMEANS

The Alaska Agricultural College and School of Mines, College, Alaska

Where Bering Sea narrows northward into Bering Strait lies St. Lawrence Island, a rough and mountainous bit of ice-bound land roughly 100 miles long from east to west and perhaps 25 miles wide. On the map it looks like a sort of stepping stone between Asia and America. It belongs to the Territory of Alaska, though it is a hundred or more miles from the American mainland and hardly 40 from the Siberian coast. If, as many are now inclined to believe, the early inhabitants of the American continent came from northern Asia and then down our western coast, it seems likely that St. Lawrence would have been a halting place in the long trek and on it might be found remains to prove such a migration. In the hope of gathering evidence on this point, Mr. Otto William Geist conceived the idea of spending several years in exploration there and was interested enough in the venture to give his time. President Charles E. Bunnell of the Alaska College agreed personally to finance the project, which was carried out in the years from 1926 to 1929.

Mr. Geist spent the summer of 1926 on St. Lawrence Island, making preliminary investigations and developing his plans. The following winter he was in southeastern Alaska completing his outfit, then returned to the Island where he stayed uninterruptedly until the autumn of 1929.

The Island now has some 400 inhabitants, all of them Eskimos except two families of whites sent as teachers by the United States Office of Education. During his voluntary exile, Mr. Geist lived with an Eskimo family, eating their food, accompanying the men to the ice floes in search

of game, watching their strange ceremonies and sacrifices, and being adopted into their tribe and given the Eskimo name of *Aghwook*, which means bow-headed whale. He had brought with him a supply of "barter goods" which he used to purchase specimens and to pay for labor needed in his investigations.

The material and specimens which he brought back with him include not only remains of an earlier culture, but also a complete collection of the paraphernalia of the present-day inhabitants and colored drawings of their everyday life, hunting expeditions, and ceremonials, thus providing a permanent record of the habits of this primitive people. His observations regarding diet seem valuable contributions to our scanty knowledge of habits in arctic regions. The following account, prepared originally for the Alaska College paper, *Farthest North Collegian*, owes to Mr. Geist not only its facts, but also its characteristic tang.

St. Lawrence Islanders are of the Siberian type, with habits similar to those on the nearby Siberian coast, with whom they occasionally exchange visits. Their houses, also of the Siberian type, are made of driftwood and walrus skins; the inner living room is known as the *agra*. Though life is still primitive in the main, contact with the American mainland is gradually introducing changes, both in their food supply and in other phases of life. For example, it is only recently that matches have come to take the place of friction as a means of lighting fires. People now on the island still remember the first flour which came to the island by shipwreck; thinking it was valueless, they dumped barrels of it into the water in order to make use of the containers.

As will be seen from the account which follows, tastes on St. Lawrence Island do not correspond exactly to ours. Not the least interesting thing about Mr. Geist's experience is that he learned to like foods, at first distasteful to him, by eating a little each day. The fact that in this way tolerance and even actual craving for the food was developed, seems evidence of our ability to learn to like any food.

Let us imagine, under Mr. Geist's guidance, that we are about to begin a day with an Eskimo family on St. Lawrence Island. Very early in the morning the wife arises while the other members of the household sleep. She pulls down a large copper kettle of water which has been hanging all night above the seal-oil lamp, throws in a handful of tea, and puts it close to the blaze made by the moss wick in the lamp. When the tea has boiled until very strong, it is allowed to settle and is then served to the various members of the family, who are still in bed.

After this stimulant they arise, dress, and gather in a circle, sitting

cross-legged on the floor while the woman brings on the first course for breakfast. This usually consists of frozen, raw meat just brought in from the meat cache and served on a large, wooden platter. In case there are two small families living together, as is often the case, one large piece of meat is placed on each end of the platter and a mincing knife is placed beside each. There is no need for cutlery other than a knife, and plates would be superfluous. The mother slices the meat and serves it to the family, who eat with their fingers; she cuts little bites and tastes for herself now and then, but she really does not eat with the others. Usually blubber accompanies the meat, and bites of meat and blubber are alternated.

During the first course, a pot of fish may be boiling near by. When the family have finished their meat, this hot fish is scattered over the community plate and each person helps himself. The fish (cod, tom cod, or sculpin) may be eaten raw, cooked, dried, or frozen. As the dried fish is eaten, it is usually dipped into oil which has been placed in a wooden bowl for this purpose. However, the St. Lawrence Islanders are not the fish-eating type of Eskimo, as are the group on the American coast between Unimak Pass and the mouth of the Yukon.

If this breakfast were being served to guests or on some special occasion, a delicacy might follow as a third course. This might consist of raw liver in a partial state of decomposition; the liver would perhaps have a putrid odor and a very sour, bitter taste, but that would only enhance it to the palate of the Eskimo. Another appropriate delicacy would be walrus intestines, boiled in either water or seal oil, and served on a platter. The intestines are usually prepared by cleaning, braiding in strands of four, often with a strip of blubber included, and then cutting in pieces.

We are now ready to partake of the final course. Everything is cleared away and the tea table, consisting of a square board, is brought in and set on the floor. In most families it will now have real china cups and saucers on it, though a few still use wooden cups and some use tin cans. We note the absence of silver because the Eskimo has need for only one piece, and that is a knife. A spoon is not necessary even with the tea because he always drinks his tea from the saucer. The cube of sugar is placed inside the cheek and the tea sipped through it; this is done because they like the flavor and also to conserve the sugar.

Perhaps the modern woman who finds dishwashing irksome would enjoy the Eskimo way. As we watch the clearing of the breakfast table we note the absence of this loathsome task. Mrs. Eskimo needs no tea

cart because there is no kitchen, since the living room serves this purpose. She needs no sink because the wooden platter is merely scraped and put away for the next meal. Dishtowels, being unnecessary, are not included in the Eskimo girl's "hope chest."

After breakfast shall we accompany Mr. Eskimo on the hunt for food? Confident in his ability to obtain it, he takes no food with him. He will get his hunting crew together and proceed to launch his boat. The food most sought is the walrus. As the ice pack comes down from the Arctic with the walrus riding on the floes, it passes rapidly through the Bering Strait and past St. Lawrence Island, providing a fine food supply. The walrus is sighted asleep on the ice and is shot with a rifle or is harpooned, as of old. Since the time of the Bering cruise, when metals were brought in from Russia, the harpoon has had a steel point, but originally slate and stone points were used. It may have a seal poke attached as a float to keep the animal from sinking. A walrus may weigh from 1,000 to 1,500 pounds; so it has to be cut up, either in the water or on the ice. Modern methods of meat cutting are not employed, still a very neat job saves everything but the backbone. No food value is lost by washing, though the intestines are cleaned. As soon as the carcass ceases contracting (about thirty minutes), the men begin to eat, starting with the warm clam chowder which nature provides in the stomach of the walrus. The walrus feeds largely on clams, and after a full meal it climbs on the ice to sleep and digest its food. By the size of the clams in the stomach, the Eskimo determines how long it is since they were eaten. This rare delicacy, Mr. Geist declares, rivals the clam chowder of the white man and vies with walrus heart and kidneys, which may also be eaten on the spot. We would prefer salt, but the Eskimo uses none. The lungs are the least popular of all the internal organs.

The walrus meat is taken to the beach and divided among the members of the cruise. Besides his share of meat, the captain or owner of the boat also gets the ivory tusks and teeth, which are very valuable. Each member takes his share of meat and freezes it. When the season is advanced to a certain point, indicated by the passing north of a certain sea bird (a species of the loon family), the meat is piled in layers in the meat cellar, skin side to the ground. This cellar, about 8′ x 8′ x 10′, is usually constructed on the highest point in the village. The door is covered by a shoulder blade of a whale, which in turn is anchored by a boulder. There the meat may be left until it is partially decayed. Sour meat and frozen meat are preferred; some of it is dried. The cellar may be cleaned once a year in the late summer when it becomes empty.

The walrus blubber, found in a thick layer between the skin and muscle in the proportion of about three parts of fat to one of lean, is thrown into barrels where, thanks to its low melting point, it is self-rendering. The oil is dipped off of the top as needed. The fat surrounding the internal organs of the animal is also used but is not so desirable.

We shall now return to the agra to see what Mrs. Eskimo is doing. She is doubtless on the alert for the return of the hunters and will be careful to have food ready. Although there is usually no timepiece and time is judged largely by the sun, a family generally eats about three times a day. Perhaps she may be at work over a copper or iron kettle, frying doughnuts in deep oil from the seal or walrus blubber. On account of the low smoking temperature of the oil, she does her frying over a fire of driftwood built outside and occasionally uses a little oil on the fire to increase the heat. These so-called doughnuts, which might truly be called "sinkers," are the only bread stuff. They are probably served about once a week. The batter, mixed in a wooden bowl with a wooden spoon, consists of flour and water; in very rare cases, baking power may also be used, though it is not usually found on the pantry shelf of the Eskimo.

The other meals of the day are very much like the breakfast. They may be varied with a few other foods at certain seasons of the year. For example, there is the bear berry, a small black berry obtained from a perennial which grows in the lowlands and eaten raw. Salmon berries, rather insipid, reddish-yellow berries, are found in small quantities for about two weeks during the year; they are gathered half ripe and are usually boiled in a mush of flour and water, sweetened, and served warm as a dessert. This is eaten with two fingers. This same pudding may be made without the berries.

A salad course may occasionally form part of the meal but, indeed, it is very different from ours. In the summer, seaweed is eaten, especially by the women, who sometimes make a whole meal of it on account of its laxative quality. The men, who lead much more active lives, do not eat so much of it. There are several varieties of edible seaweed to be found on the beaches, especially after storms, and all of them may be eaten either raw or boiled. Some of these weeds are braided and dried for winter use. Thus we see that the iodine and perhaps copper content of the diet may be adequate.

The Nunivak "sour greens" are very delicious, according to Mr. Geist, who says they are made by fermenting green plants in a seal poke or, nowadays, in barrels. This mixture, however, is non-intoxicating. It is

frozen and is usually opened up for spring worship. Shaved up, mixed with seal oil, sugar, and water, and again frozen, it produces "Eskimo ice cream." Other "greens" which grow wild in the hills are willow root, willow leaves, and *saxifraga Nelsoniana*. The last is a plant first collected by Dr. Nelson, former chief of the United States Biological Survey, who spent some time in Alaska; the small green leaves are soaked in seal oil and eaten with blubber and dry meat, the first part of the process corresponding somewhat to our marination. The tender roots of the tundra willow are gathered for food; only their outer bark is eaten; the remaining parts of the roots are tied in bundles for kindling wood. This willow bark may be eaten with meat and blubber. A supply of such foods is dried for winter uses.

Another way of getting roughage in the diet is by eating the tough skin and hair which is left on the walrus meat. The hair is from one-half to one inch long and is considered an edible portion.

No dairy products are included in the diet. The young are nursed by the mother until three or four years of age. Since the teachers and missionaries have come, the mother who is unable to nurse the child or have another nurse it, can procure canned milk. However, many still remember how, in such cases, the infant was formerly fed blubber from birth and apparently thrived.

Some bird eggs are available and such birds as eiderducks and sea gulls are also eaten. The greatest delicacy in this line is the auklet, obtained as soon as hatched and either immediately eaten raw or preserved whole in seal oil until a delightful sour stage is reached. Young cormorants are taken from the nests before they can fly, stripped of the larger feathers, hung by the neck until aged, and then boiled and eaten.

Mr. Geist feels that perhaps the Eskimos might have had chewing gum long before we did. Their native variety is made by concentrating the overflow oil from the seal lamps to a tarry residue. This is still used, but they now prefer the white man's gum and chew a great deal. The gum is never thrown away, but new pieces are added and it is customary to divide or loan one's own to a friend.

While his diet does not follow our dietary standards, it seems reasonable that the Eskimo may be getting more minerals and vitamins than we might imagine, because of the use of raw foods, greens, fish, and animal internal organs.

Although running water is often scarce, they get quantities from melted ice.

Investigation shows that until recently their teeth were very good.

The Eskimos themselves intimate that the "sugar in the cheek" habit has caused tooth decay. The women, as a rule, have better teeth than the men. The men have tobacco-stained teeth now. Although tooth brushes are unknown, the chewing of skins, hair, and boot soles, together with the use of other roughage, seems to act as a substitute. In case of tooth decay, pulling is the only remedy known.

As yet, they do not know how to use all new foods brought in by the white man's trading boat. They usually buy all the candy on the boat, sit down, and eat it on the spot. Some canned fruit is purchased, but that, too, is consumed immediately with no attempt to distribute its use through the year. The chief food commodities obtained through barter from the trading boat which comes about once a year are flour, sugar, and tea, and a little coffee. Hardtack is included in this list in some of the larger villages.

WHERE SHALL WE LIVE?

HARLEAN JAMES

Executive secretary, American Civic Association, Washington, D. C.

Martha and I had been thinking for months about buying a house, and had looked about enough to have developed fairly definite ideas as to what we would accept in the way of outward appearance and fireplaces and number of bedrooms and baths and screens and interior finishes and types of furnace and what not; but we had never talked out the question of neighborhood. So I found I had started something when I remarked casually one evening, "Martin told me today about a house that is just about what we want—and at a very low price."

"Must be something the matter at too reasonable a price," commented Martha suspiciously. "Where is it?"

"It's over in the Brighton Addition. Not a bad location so far as transportation down town is concerned. The house is right on Franklin Avenue, improved lately by new paving for six-lane traffic besides the street cars," said I, thinking to enumerate advantages.

"I knew it!" exclaimed Martha. "Of course it's cheap, because nobody wants to live on a through highway, with the noise and clang of the street cars and the dust and confusion of speeding automobiles and the vibration and grind of heavy trucks. No wonder it's cheap. I remember when those houses were built. I thought they were charming; but Mrs. Charleston was telling me the other day they bought one and the dirt and noise were terrible. Besides, she said they lived in mortal fear that the children would be killed some time when they were crossing the avenue to and from school. You know they built the school in the next addition so that all the Brighton tract people must cross that dreadful street."

"But Martin tells me they have just put in traffic lights at that corner and that now pedestrians can cross the street in safety," I explained patiently.

"Yes, and listen to the screech and smell the fumes of all the motors as they stop for the signal," scoffed Martha. "I've no faith in traffic lights protecting the children. There's always some unexpected car turning in across the pedestrians who fondly believe they have the right of way, when only part of the traffic is shut off from their paths. I want to live in a house on a quiet, retired street which doesn't carry any through traffic and where the children can go to school without crossing any crowded streets," stated Martha positively.

"I read about a town in New Jersey where the children can go to school without crossing any motor traffic and where people can walk miles through footways and parks without once crossing a motor way," I cited, glad of a chance to display my knowledge of affairs. "But we haven't anything like that around here."

"We may not have anything exactly like it," rejoined Martha, "but we have Spring Valley."

"With prices up in G," I commented.

"But don't you see if you're offered a house good in itself, cheap, there must be something the matter with its location and its surroundings, and when you come to sell it you'll probably have to sell even cheaper? The very causes which make it cheap for you will go on making it cheaper and less desirable," insisted Martha.

"Martin says the Franklin Avenue house is on land which will undoubtedly be zoned commercial in a few years and net a handsome profit. I thought perhaps we might live there a while and sell out when business comes in," I explained.

"I only know the experience of the Joneses who lived in a handsome house on Fairmount Avenue," recounted Martha. "Before that area was zoned for business most all the homes on the street were empty, or for sale cheap, or used for boarding and rooming houses. After it was zoned for business most of the houses were given false fronts and built out to the street. It was several years before any decent buildings were put up and still longer before the increase in the value of the land was enough to balance the loss in value on the houses. Mrs. Jones said they zoned too much area for business to have any immediate effect on the value of the property. Everybody wanted to sell and buyers could play one seller against another and press down the prices. Mrs. Jones told me they sold their fine home for a song and bought out in Spring Valley where they have protection against business streets and deteriorating neighborhoods."

"Well, the old Jones property was sold the other day at a pretty good price as a site for a down-town apartment hotel with stores on the first floor," I remarked drily.

"Suppose it was! The Joneses couldn't possibly have lived in it during the years of the boarding-house invasion and much less during the years of petty shops. The man who made the money was the man who bought cheap from the Joneses and rented the place until he could sell it to the building company. At that, I'd like to know if the same money wouldn't have brought in a better return invested in some commercial

enterprise. Anyway, I know the Joneses didn't make any money." Martha was very positive.

"All right. Franklin Avenue is out," I said firmly, knowing the futility of arguing further. I had cherished some hope that I might invest in a home at a low price and net a profit in a few years. But I saw that it was hopeless to convince Martha that she would like to live in a changing neighborhood. Also, Martha's reference to the Joneses had made me wonder if Martin wasn't a little bit optimistic about the future prospects of the Franklin Avenue house. When I came to think of it, business would probably move up that block pretty slowly and it might move in the other direction where the houses had been built longer and cost less in the beginning. I also began to speculate on the number of stores needed out in that neighborhood. The business already there would serve a pretty good-sized population. The house looked attractive all right; but it wouldn't be so good to live next or near a delicatessen or a meat market. Of course I might have known that Martha was describing a real house which she had seen. The details were too complete for a hypothetical house.

"Well, what's the damage for the house in Spring Valley?" I asked resignedly.

"Oh, they are all different prices, according to the house; but the one I like best is on a curving, shady street, with two oaks and a beech in the front yard and a nice sunny place for a rose garden next to the sun porch, no through traffic, just the cars of the people who live on the street and a few delivery wagons," explained Martha, evidently quoting the real estate man.

"But how do I get to business?" I demanded. "I don't want to ride on the street car all day."

"You won't have to. There are express electric trains morning and evening which take you to town in twenty minutes, just long enough to read your paper," said Martha ingratiatingly. "And the best of it is that not only is the whole subdivision zoned for single-family residences, but the deeds all carry restrictions for twenty-five years, automatically renewable for another twenty-five years, unless a majority of the owners give two year's notice of desire to change the restrictions."

"What kind of restrictions?" I asked.

"Oh, about the architecture and color and appearance of the houses, and the kinds of garages, and the keeping of animals, and all kinds of things. You'd think not being allowed to do what you pleased with your property would make it less valuable; but you see restrictions which keep

your neighbors from doing disagreeable or unlovely things really add to the value of your property, and most of the things you can't do are things you wouldn't want to do anyway," translated Martha from the salesman's presentation. "Major Boylston bought out there, you know, and then was transferred out west. After living in the house for six months he was able to sell it to another army officer whose wife liked the garden they had put in. Of course Mrs. Boylston left the house clean as a whistle. And the water and sewer and gas and electricity all come in from the back—easements, the agent called them. There are no poles, wires, or underground ditches and conduits in front. You see, the lots are shallow and it was not only better but cheaper to put in all those things in a strip of ground at the back, and the street pavement will never have to be dug up to make repairs or new connections. There is a good school, a supervised playground for the children, and a fine, big park with golf and tennis for you; and membership in a community club comes with the purchase of the house. And there is a good market and the duckiest little speciality shops at the Spring Valley shopping center. McDonald's, the big department store, has opened a branch out there. I can park the sedan and the children in a nice shady place while I do the marketing and go shopping. And, dear, the terms are very easy. I am sure I can economize in a lot of ways to let us afford it."

Come to think of it I had heard several of my friends say they had bought in Spring Valley and that it was a pleasant place to live. But I had assumed that I could not afford it. Now I recalled their comments on the advantages of stable values in comparison with uncertain speculation.

We moved to Spring Valley. Martha's roses took the neighborhood prize last year, and my perennial border made such a riot of color all spring and summer that a friend of mine offered to buy our house at a profit over what we paid for it, even though he could buy a new one almost like it for exactly the price we paid. But Martha and I had worked too hard in the garden to want to turn it over to anyone else. Besides we like the house and the neighborhood. I was just telling one of my friends how we came to go to Spring Valley. He remarked that those houses on Franklin Avenue had run down terribly. The traffic grows worse each year and nobody wants to live on such a street. There is not enough demand for business to replace the shabby homes and so it's a sort of blighted district.

"After all," said I, "when it comes to value, it makes more difference *where* a house is than *what* it is! No one wants a real house and garden

next door to a big apartment building or cheek-by-jowl with business. Zoning has done a great deal for this town by designating the districts for residences, commercial uses, and the industries. And Spring Valley is one of the best of the restricted subdivisions around here. You can't beat the combination of a good home in a good neighborhood, properly protected by wise city planning, zoning, and subdivision control," I remarked with satisfaction.

THE HOME ECONOMICS STORY TOLD IN A CITY NEWSPAPER

JESSIE A. WINCHELL

Director, Department of Home Economics, Board of Education, Rochester, New York

Thanks to one of the leading city newspapers, the home economics department of the Rochester public schools was recently given an opportunity to make clear to the public what the homemaking work in the schools throughout the city is really aiming to do and how it tries to accomplish this. The plan seems so unusual and so full of possibilities that a description of it and its results may be suggestive for other communities.

The educational reporter of the paper asked the home economics department to submit articles, photographs, and anything else which it thought the paper could use in telling the story of home economics in the schools. To make sure that the story was a real one with genuine human interest, teachers and pupils were asked to describe whatever parts of the work they individually were most interested in, and effort was made to have the published material represent all phases of the work.

Some of the "pieces" written by pupils are given below:

Shall We Can? A question often asked by the housewife is whether it is more profitable to do one's own canning or to buy foods already prepared.

A class in the domestic science department of East High School made an experiment to discover whether home canning was more profitable than commercially-canned products. Different articles were purchased and compared with those canned by the pupils. After weighing both and comparing the cost, it was found, in every case, that the home canned product was much cheaper. The majority of the class also considered the flavor much better.

When people live in apartments, they may think it useless to can, but even in this case it is a saving. Space can usually be found for the small amount needed. In the case of a large family, where a great deal of canned food products are needed, the amount saved, when actually figured up, would prove to you that it is well worth both time and effort to do your own canning.

As a conclusion to the experiment, it was decided that home canning is by far the best, when all points are taken into consideration. Another important point to consider though, is when the family is all working. In this case, it would be practically useless to spend one's spare time canning, when one can buy food at the store which might be satisfactory.—RUTH WEEKS.

The Cafeteria and Tea Room Course at Monroe Junior-Senior High School. Foods is the subject which I like best in our laboratory work. I know the girls all enjoy the day Miss C—— sets aside every week in which we plan and prepare our own luncheon. It is always a wholesome and inexpensive luncheon. When we have an exceptionally good one, we invite one of our teachers to join us. These teachers have given us many compliments on our work, including Miss C——.

This work prepares us for cafeteria and tea room work, which some of us intend to take up. It also enables us to help our mothers more at home in preparing a meal.

Our next problem will be to transform our dining room into a cafeteria or tea room.—FANNIE CARUANA.

An Inexpensive Way of Making a Rug. In Scotland, if my mother decided to make a rug, she would buy a bag of potatoes, wash the burlap, and use it for the foundation of the rug. She then went to the mill and bought scraps of wool which she dyed to suit her taste. She then drew a design with chalk on the burlap which, of course, was original.

The hook which she used was half of an old pair of scissors, and she notched a hole on one side of the scissors so that it would catch the wool on the other side. Some people used handles of the door, files, and just anything that would be best suited to their hands.

It would take about twenty-one hours to make this rug 67″ x 36″. In Scotland this rug would cost three shillings and in America seventy-five cents.—AGNES MACKELVIE.

An Experiment with Silkworms. Our grade (the sixth) was very much interested in "Silk" and how the silkworms were raised. One day a visiting teacher came, and found out how much interested we were in the subject. She said that we could do something that we would enjoy even more than read about silkworms and silk. Her plan was that we could get and raise the silkworms ourselves. Everyone was delighted at this plan and immediately a letter was sent to Washington, D. C., asking for some silkworm eggs.

We soon received them, and waited impatiently for a sign of some silkworms. At the end of a few weeks they began to hatch, and we were too happy for words!

The next thing was to get some mulberry leaves to feed them. The park board gave us permission to get some at one of the parks. The teacher and different pupils made several trips to Seneca Park. They had to go quite often for the leaves had to be fresh or they were no good.

The worms were kept best at a temperature of eighty for they always had to be kept warm.

At last they were so large that we could see them plainly enough without looking

through a magnifying glass. They looked as though they were divided into several parts, something like a caterpillar.

Each day two different pupils were chosen to care for them for they had to be cleaned and fed twice a day. Everybody was anxious for their turn to come for they enjoyed taking care of the silkworms. The more they ate the more they grew and they had to be tended very carefully. . . . .

Vacation time came and the worms were not ready to spin their coccoons yet. Everybody was disappointed, for it would be fun to watch them spin their silk. We decided to give a few silkworms to the people who would want to care for them and watch them spin their cocoons. The pupils took their silkworms home and cared for them as well as they knew how.

At last vacation time ended and instead of silkworms, yellow cocoons and eggs were brought back.

Again we waited for the eggs to hatch, but no sign of silkworms appeared. We sent a letter to some silk company and soon found out that the eggs would hatch only in warm weather.

We were disappointed at this but put the eggs away in a safe place till spring. When the eggs hatch in the spring we will be able to start our experiment all over again.

One day about the middle of November our principal brought two teachers, who came to visit us, in our room to show them the cocoons. Two boys went down to the basement where they were put away. The boys soon came up with the cocoons and eggs and everybody examined them closely. Suddenly some one discovered a tiny black thing that was crawling all over. We looked close and sure enough there was a silkworm. Everybody was crowding around the teacher's desk to get a closer view of the silkworm.

A girl went to a neighbor's house to try and get a leaf that was not dried up. She succeeded in getting a mulberry leaf, but it was not very fresh. We put the worm on the leaf, but it was too dried up and the silkworm soon died. We put the rest of the eggs in the coldest place we could find so that no other eggs would hatch, because we wanted to wait till spring to raise them.—JOSEPHINE GIOIA.

Training in Child Care. On Tuesday and Friday mornings the girls of Continuation School have been privileged in securing children for their homemaking class. These children range in age from three and one-half months to four years. These little tots are the children of foreign parents. Their mothers are coming to Continuation School so that they may learn the English language. From nine to eleven on these two mornings, Miss H——, who is in charge of the homemaking class, gives us instruction in child care. We have an apartment, which we are furnishing and which also has a nursery. This nursery is fully equipped with children's furnishings and toys. At about half past ten these little tots are fed with graham crackers and milk. The children are not forced to eat or to play with any certain toy, as our teacher, Miss H——, belives in free play.

My child care training is worth while as it fits me to become a better mother and to know all about children as mother has the greatest influence in the life of a child. I am a Continuation School student.—EUGENIA CLAPAFTIS.

An Ideal Home. My idea of a home is one that is successful and where everyone in the family is courteous, cooperative, and has something to do around the home. A mother who has thrift, good judgment, patience and a father who is ambitious and thrifty.

When the younger brother or sister comes home from school they should have something to do such as going to the store, dusting, setting the table, washing dishes, and doing other things that will relieve your mother.

If your big brother or sister is going to have company, you should either go visiting or go to the theater or go to your room and don't say, "Gee, you're always having company."

If your sister happens to come home with a headache and you are playing the radio or victrola and she asks you in a nice way to please stop playing, don't start yelling and shouting, but stop and try to help relieve her by giving her something for it and ask her if there is anything she would like to have.

There should be some night or nights out of the week when the family should stay home and have a family group at home or go out.

All of the younger children that are old enough to realize the value of money should be given an allowance and at the end of each week show what they did with their money. See if they spent it for useful things or not and if they want some more money from their coming week allowance they should be refused so they will be taught how to save and be thrifty.

The family should live up to their standard of living. A child going to school should not want everything they see, but be satisfied with what their parents are able to give them.

At night when the father comes home from work he should be greeted with a smile. He will then look forward to coming home. A home is a mother's world and the childrens' paradise, and a father's all.—EVELYN MORRIS.

A typical paper by a home economics teacher describes clothing work for junior high school seniors:

Senior Class Clothing Work at Jefferson Junior High School. The study of clothing in junior high school is started with the most elementary principles, not only as to construction but as to correct dress.

It is as necessary for a student to judge and identify materials suitable for various needs as it is to construct a garment. It is equally important to select a pattern of proper size, use it intelligently, alter where necessary, and to know how to estimate the amount of material needed.

As it is a fact that many garments in this day and age can be purchased ready-to-wear, it is very necessary for the students to develop judgment as to which garments should be made at home and which would be more satisfactory if bought ready-to-wear.

It is desirable that the student develop standards in the construction processes, and acquire a reasonable skill in doing them. It is equally desirable to be able to make an intelligent selection of ready-to-wear garments. It is very important for a student to evaluate the time and money spent in making the garments in comparison with the ready-to-wear.

The care of one's clothing is necessary to good grooming.

The last clothing construction problem with which our junior high school girl is confronted is her graduation dress. The final decision as to the suitable dress for graduation is made by the students themselves. The cutting and assembling of the various parts of the dress are pursued with great eagerness. This dress symbolizes much of vast importance to a junior high school girl and is the culmination of her junior high clothing work.—C. M. STROBEL.

Another is by the director of a school cafeteria:

Cafeteria Project. As a means of finding out whether students are selecting well-balanced lunches, a tray-checking contest is put on each semester at Madison Junior High School, somewhat as follows.

The director of the cafeteria has signs printed in the commercial art department which read "Save Your Tickets." These are placed in the various corridors a few days before the tray checking begins. As the students pass by the director in the cafeteria a ticket is put on each tray which contains a well-balanced and adequate lunch. This always causes a great deal of speculation and wondering, but after a few days many of the students sense its meaning and are eager to get as many tickets as possible. If a child brings a suitable lunch from home he is also given a ticket.

Inexpensive prizes are given to the two home rooms having the greatest number of tickets. While this is strictly a cafeteria project, it affects a large number of students with very beneficial results. As a result of this work the sale of vegetables in the cafeteria has been increased seventy-five per cent.—MRS. HELEN SILL.

Besides home economics pupils and teachers, the directors of other departments were also asked to tell how their departments cooperate with the home economics department. One of the most interesting of the accounts was that (unfortunately too long for reproduction here) of the health council in a junior high school which attempts to coordinate the health work of all the departments and which draws heavily on the home economics department. How home economics fits in with some of the other school programs is shown by the statements of their respective directors:

Home Economics and the "Special Class" Program. Home economics for the girl who is retarded in her regular school studies is not a school "subject"—it is a series of satisfactions. It is the means of giving her many objective experiences which prove to her that there are things which she can do well.

Special education for the girl from 12 to 16 years old practically founds its work upon home economics. The work is objective. It comes within the range of interests and the ability of the pupils' understanding. It has motive. It has personal appeal. It lies within the girl's power of accomplishment. Its realization may take the form of a pretty dress which has been made in school, or a recipe for muffins which, having been made in a cooking class, is taken home and duplicated, thus convincing the elders that the school is helping the girl to become a useful member of the family. It may

be that the home table is set in better form because it has been Kate's special pride and joy to set the table in the teachers' dining room at school. So it goes on ad infinitum. We are assured that because of this practical training of today, there will be happier, more capable, and better satisfied women of tomorrow.

At the Alexander Hamilton School, there is a group of 35 children who have such defective vision that they cannot benefit from school instruction as is given in the regular school classes. Because healthy bodies do much to keep vision and help it to become healthy, these children are taught which foods are best and which to avoid in order to accomplish this end. This information is carried into the homes. The general health of this group has improved. There is great satisfaction in knowing that in many instances this phase of home economics has had a liberal part in preventing further loss of sight.

Constructively, then, home economics contributes to the mentally and physically handicapped child.

Home Economics and Art Education. Among other phases of art, the department of art education provides for instruction in color and design as applied to dress and home furnishing. The test of a working knowledge of art problems is their successful application by the pupils. The department of home economics, through its cottages and study of clothing and home planning, offers opportunities to the pupils for art expression in these subjects along the line of principles studied and worked out in harmonious color schemes, designs for specific application, and arrangement of objects within the home. It also brings to the attention of the pupils an economic problem, in that judgment strengthened through acquired good taste and shown in selection is one way of saving.—OREL L. ADAMS, *Director of the Art Educatian Department.*

The adviser for girls in a junior high school wrote as follows:

Home Economics and "School Activities" Program. It is interesting to note how many lines of endeavor assist one another in achieving their individual ends. For example, the work of a girls' adviser is interwoven with all departments in the school. Among these is the home economics department which in a junior high school is essential in helping the adviser to solve some of the girls' problems.

As every girl is in contact with this department to a greater or less degree according to the course she has chosen, it is natural for a girls' adviser to turn to the department for help with some particular girl or group of girls. The problem may be one where family or personal adjustment is concerned. It may involve diet, hygiene, cleanliness, and proper clothes, all of which are taught in the home economics department. In the problem of clothes, a close cooperation makes possible the establishment of standards of wearing apparel attractive and suitable for all occasions

It is recognized that social conduct helps materially in attaining success, not only in the home, school, and society; but also in industry and the professions, social conduct, which means knowledge of what to do, thoughtfulness, courtesy, and poise, is essential. Actual practice alone will develop that ease of manner which is so desirable. Faculty and student teas, mother and daughter receptions, senior corps socials, big and little sister gatherings become part of a school plan in a character education. This is all made possible by the helpful cooperation of the home economics department.

The home economics department is a unifying agency for the entire school in social gatherings since all departments participate in these and some of life's great lessons there are learned. People must not only work together but also play together to gain understanding, friendship, and tolerance.—MRS. NITA STEINHAUSEN, *Girls' Advisor, Washington Junior High School.*

Evidence of the success of home economics in furthering cooperative home, school, and community projects was given in statements by supervisors and others whose positions give their opinions special weight. The one chosen for quotation here is by the principal of East High Annex.

High School Home Economics As Training for Life. Every girl in high school is a prospective homemaker and mother, and every high school girl should have the training which can be so easily applied during her high school course and all through her life. Learning in a scientific and systematic way to prepare foods, the content of foods; how and when to serve; menus for invalids and menus for the growing child; preparing and serving food to a large number of people, tasks which are met in our churches and all larger social activities by every woman; knowing how to select materials, check textiles, and make garments from the very simple dresses and pieces through evening gowns, coats, and millinery—work which is bound to be a great saving in both time and money; making the necessary clothing for the very small baby; knowing how by having had the actual practices, means much time saved with more opportunity for development and leisure to the homemaker.

Many mothers believe they can teach their daughters all the science of homemaking, but of the comparatively few who are capable, a very small number ever take the time to teach their own daughters what they really know of homemaking, and as a result many homes are wrecked because the young homemaker does not have the fundamental knowledge of buying, preparing, and taking care of the home industry. The business woman is bound to meet the homemaking problems and surely needs the training in early life. The many opportunities today in lunchrooms, cafeterias, summer resorts, and hotels with special home-management problems offer a business side to the study of home economics, which should be considered carefully by every high school girl choosing a vocation.—JUDSON DECKER.

It is hard to overestimate the ultimate value of such publicity to a community in informing taxpayers of the work of any department in its educational system.

THE PROGRAM OF TEXTILE RESEARCH IN THE BUREAU OF HOME ECONOMICS

RUTH O'BRIEN

Division of Textiles and Clothing, Bureau of Home Economics, United States Department of Agriculture, Washington, D. C.

The Department of Agriculture is a fact-finding institution. It was organized for the purpose of making researches along agricultural lines and disseminating the information thus obtained, not only in technical form, but also in popular terms which could be understood and utilized by all the people of the country. The results from its laboratories and from laboratories inspired and assisted by it have been not only the foundation but the very building stones of modern effective production in American agriculture. The Morrill Act placed a particular responsibility upon it in connection with giving help and cooperation to the land-grant colleges. As a result there have grown up in the Department, bureaus representing the various fields of agriculture and the similar interests of the land-grant colleges.

The departments of home economics have, for many years, been among the largest in these colleges and have been associated in many ways with agriculture. By virtue of its relationship to these colleges, the Department of Agriculture has always had a keen interest in such work. This was further stimulated by the passage of the Smith-Lever Act which gave the Department responsibility in connection with the extension service in home economics as well as agriculture. The establishment of a bureau of home economics in the Department was therefore a logical development. In line with the general policies of this organization, it is primarily a research unit charged with studying problems and accumulating facts in the various fields of home economics. At the same time it stands ready to cooperate with the home economics departments of the colleges in those activities, especially along research lines, in which the two groups can be mutually helpful. It shares with them the responsibility of carrying the information thus obtained to as many homemakers as possible, through publications and extension work.

True to the traditions of the Department, it is not following beaten paths. Perhaps no part of its work is of a more pioneering nature than that of the Division of Textiles and Clothing and perhaps no other is suffering more from the lack of appreciation of the problems involved. Scientific knowledge concerning all aspects of textiles and clothing is in the same state of development as was the field of food and nutrition fifty

years ago. There is the same lack of information, the same scarcity of trained workers, and the same dearth of research methods. An additional stumbling block to many who are trying to develop research of this kind is the fact that some aspects of the subject must draw from fields such as esthetics which are even less well organized.

In order to insure an efficient development of textile research in the Bureau over a period of years, a program was set up when the Division was first organized. This placed special emphasis on those lines in which, at that date, the least progress had been made. In attempting to carry out the plans during the intervening years, the fact has been kept in mind that, if an organization is to obtain results and acquire a reputation for outstanding work, attention must be focussed upon definite goals and, when requests come as they do to every government laboratory urging that new projects be undertaken, they must be granted or refused on the basis of the contribution to the program under way.

A few of the lines indicated in the Division's program of work have therefore been opened up and followed consistently. The particular items which should be stressed during the next few years are considered below. Although these are classified under four headings which may seem somewhat distinct from each other, it will be noted that they all deal either with the textile problems the consumer is meeting or those confronting the producers who are trying to meet consumer needs.

Fabric Specifications for Consumers. The changing economic conditions during the past twenty-five years have brought with them definite changes in the responsibilities of the homemaker. The emphasis is passing from housekeeping skills to managerial duties. In connection with clothing and household textiles this means that her outstanding problem today is intelligent selection in a market that is becoming more and more complicated. The number of new and untried fibers and fabric finishes is increasing each year. Trade conditions have tended to lower standards while skillfully preserving appearance so that the purchaser is unable to determine quality. It is more and more apparent that fabric standards and specifications are the only solution of the problem, and the demand for those on the part of the consumer is becoming more insistent each year. The Bureau, organized as it was in the interest of homemakers, has a definite responsibility in assisting in the determination of what such specifications should be and cooperating with manufacturers and retailers in getting these in usable form for the consumer.

It is to be hoped that, in the near future, it will be possible to embark on an intensive study of the most important staple textile commodities,

making a thorough analysis of the specifications of those on the market, determining the relation of these specifications to performance under actual use, and assisting manufacturers and retailers in setting up, within given price ranges, specifications which can be used by the homemaker in selecting the article best suited to her needs and income. This would involve a long-time program and while in progress should be supplemented by the compilation and publication of all the material available which would assist consumers in forming the best possible judgments when purchasing textiles. The importance of this cannot be overemphasized. A large percentage of the income of every family in the country is being spent on textiles, and the fact that these must be purchased almost entirely by guess is becoming a serious menace to the economic well-being of every home.

Sizes of Patterns and Ready-to-wear Garments. Another perplexing problem of the consumer today relates to the purchasing of ready-to-wear clothing. Though here also there is a great need for standards and fabric specifications which will counteract the decrease in fabric quality which has been so apparent during the past few years, one of the most wasteful and annoying aspects of the situation is the lack of the proper sizing of garments. This problem has become so acute that manufacturers and retailers, as well as consumers, have been discussing it widely in meetings and in the press. The introduction, this season, of dresses so styled as to require even more accurate fitting than those of former years is increasing the difficulty tremendously in this particular industry and is undoubtedly one reason why the sale of ready-to-wear garments has decreased markedly this year. The problem is not confined to ready-to-wear garments, however; the woman who constructs the clothing for her family meets the same difficulties in attempting to secure patterns that fit.

Strangely enough, few in the trade have seen the solution of the problem, although it is very evident from a scientific point of view. Contrary to popular belief, there has never been a scientific study of body measurements upon which garment sizes can be based. Present measurements are the result of ancient ideas as to body proportions, modified in accordance with complaints received by manufacturers and personal guesses of those concerned.

On account of the fundamental importance of this matter in clothing consumption, the Division surveyed the situation a few years ago and outlined a five-year cooperative program of research in which a study of body measurements of the people of the country would be made accord-

ing to recognized anthropometric methods. It has never been possible to carry this out, but the matter is still under discussion, and it is hoped that the near future will see developments in this direction.

Utilization of Agricultural Products. The Department of Agriculture has been studying the production and marketing of wool and cotton for fifty years; and it is one of the surprising and yet typical results of a developing organization of specialized research that until recently this work had never been correlated with its ultimate purpose, namely, the utilization of these products. It seems obvious that in the production of fibers or fabrics their value to the consumer should be the chief consideration, and yet there have been practically no studies made anywhere on the effect of the different types of fibers and of fabric composition on the value of the finished fabric. In fact, only in a few industrial fields such as the tire, airplane, and balloon industries have any attempts been made to analyze the requirements of a fabric to be used for a specific purpose and then, by the proper selection of fiber, fabric design, and finish, to build a fabric for that purpose. The material offered to homemakers for clothing or household use has been designed with this question uppermost: "Is the appearance such that women can be persuaded to buy them?" There has been no consideration of the far more fundamental question, "Will they meet a specific need?"

One of the objects of organizing the Bureau of Home Economics was to correct this situation as far as the Department of Agriculture was concerned. The Bureau has a definite obligation in the language of the Act under which it is operating to emphasize those researches which deal with the utilization of agricultural products in the homes of the country. However, it has so far been possible to make only a small beginning. In cooperation with the Bureau of Agricultural Economics a project has been started in which the performance of one type of cotton is being determined by manufacturing it into sheeting and subjecting it to typical conditions of wear and laundering. A similar study has been undertaken with the Bureau of Animal Industry in which the performance of a typical grade of wool when manufactured into blankets is to be studied.

This type of investigation should be extended until it is possible to evaluate each new development in the production of raw fibers in terms of its utilization. Such a program demands the development of spinning, designing, and weaving laboratories as well as the physical and chemical laboratories needed to study adequately the properties of the finished fabric. The intra-departmental committees recently organized to correlate the work of the various bureaus on cotton and on wool are both

emphasizing the need of these facilities and are urging that proper attention be given the utilization aspect of the Department's program. It should perhaps be mentioned here that one of the greatest drawbacks to textile research throughout the country has been this lack of facilities to carry the raw material to its finished stage under controlled conditions. Most investigators of textile fabrics have been obliged to start with finished fabrics which, of course, are mixtures of substances with many variables and which do not give consistent results from an experimental standpoint. It is as though an investigator in nutrition attempted to study the effect upon growth of an unknown mixture of foodstuffs which could not be duplicated.

In connection with this program, the need of experimental work in fabric designing should be stressed. As far as clothing and household uses are concerned, the designing of fabrics has been done largely in an empirical manner with the object merely of producing more novel effects. Research in fabric design has never been attempted and it has long been the hope of the Division of Textiles and Clothing that this could be undertaken. Its place in a utilization program in the Department of Agriculture is obvious, and the development of research methods in such a new field would prove of inestimable value to textile manufacturers and to the public.

Another responsibility given the Division in connection with fiber utilization concerns itself with working out new and more effective ways of using the textile materials now available. This is interpreted to mean, not studies planned nor information given out to stimulate an artificial demand, but investigations which will give facts concerning the best possible utilization of those fibers, the production of which is part of our agricultural program.

By adequate attention to modern movements, it has been possible to correlate these with developments in other lines. For example, the attention given lately to child study throughout the country has emphasized the need of more comfortable and convenient clothing for children which would encourage "self-help" and thus stimulate mental development. Although there had been much discussion of this need and ways of meeting it, no definite designs for such garments were available. The Bureau has, therefore, as part of its cotton and wool utilization program, developed by experimental methods garments which have proved valuable to mothers and workers in this field. These designs are being accepted by pattern and garment manufacturers, are being advocated by extension workers, and are having a noticeable effect on children's clothing throughout the country.

The success of these efforts points the way to the need and efficacy of work of this kind. Undoubtedly, an extension of such a program would materially counteract the extreme faddishness of much of the clothing for women and children. The desirability of attention to this problem on the part of organizations unprejudiced from a commercial point of view is very evident, and the Division is anxious to expand its program in this direction. The demand for work of this kind has also arisen in connection with the problem of adequately clothing inmates of government institutions, such as women's reformatories and detention houses, where both the economical and psychological aspects of clothing are important. Although the Division has always recognized the need and value of such services to other government establishments, it has been impossible as yet to give the services requested.

It has been possible to organize some aspects of the utilization work of the Division so as to bring about cooperation with other bureaus of the Department and thus assist in coordinating and strengthening the utilization program of the larger group. Realizing the importance of the proper care of clothing and textile fabrics in the home and the influence which "cleanability" has on the demand for different textile materials, a series of investigations was started which deal with various aspects of the laundering of wool and cotton fabrics. These have been correlated with the work of other bureaus on textile fibers and on the more uncommon starches which have potential value in laundry and sizing work. At the same time, it has been possible to develop methods of research in this field that have been useful to other investigators.

By cooperation with the Bureau of Agricultural Economics, assistance has been given in bringing to the attention of the homemaker materials utilizing American-grown products which hitherto have been used only in limited amounts or only for industrial purposes. For example, attention was drawn last year to the general usefulness of osnaburg, a sturdy fabric made of short-staple cotton. By showing ways in which it could be utilized to advantage in the home, a valuable yet inexpensive material for household use was introduced and, at the same time, a market was developed for an important American product.

Research Needed on the Hygienic Aspects of Clothing. One of the most important fields which it has been impossible to attack so far, is that of the hygienic aspects of clothing. It is noteworthy that, in a recent search by the Bureau for references on the subject, only about a thousand could be found and of these a large number were semi-popular papers which represented opinions and not proved facts. These thousand papers

represent all the scientific and pseudo-scientific papers published on this important aspect of clothing in French, German, and English since 1875.

This seems incredible when we consider the hundreds of thousands of papers which have been published in other fields of scientific work. Only fifty references on clothing as a carrier of disease and thirty-three on the psychological aspect of clothing could be found, and these were mostly non-scientific in character. Many of them were merely restatements of the same facts and opinions.

Even the most casual observation of clothing habits shows the need for scientific information upon which recommendations can be based for proper clothing from the standpoint of both physical and mental health. Questions are continually arising concerning desirable clothing for different climatic conditions and demands are coming from many sources for definite recommendations regarding infants' and children's clothing and for information as to the relative value of different fibers and different fabric constructions from a hygienic point of view. Since no researches have been made and no facts are available, the public is being swayed first by one fad and then by another, with deleterious effects, hygienically and economically.

In no laboratory in the country has the physiologist or the psychologist been brought in contact with textile physicists or clothing designers so that each might make his contribution to problems of this kind. Since its organization, the Division has looked forward to the development of a physiological and psychological laboratory in which these significant aspects of clothing could be studied, not only in order to solve definite problems, but also to work out methods of research in this new field.

Needed Information Service. A study of the early history of the Department of Agriculture shows that much of the stimulation it gave agricultural research throughout the country was due to the programs of research it suggested and the literature facilities it made available at a time when literature dealing with the infant sciences involved was meager and largely inaccessible.

Recognizing that the present situation regarding textile research is in the same stage of development, the Division has as far as possible increased the accessibility of the literature available by furnishing lists of references, bibliographies, and abstracts of articles. In order to be most helpful, this service should include suggestions of fruitful research projects, leadership in organized cooperative research in this field, and the demonstration of methods of organizing and carrying out new types of needed investigations.

OPEN FORUM

How Do Babies Develop in a College Home Management House?[1]

Ever since babies were first introduced into home management houses, there has been much discussion of how the babies are affected by living under such conditions. On the one hand, many have felt that several phases of a child's development must be impeded by his being obliged to adapt himself to the several personalities who cared for him, and that he must experience more or less emotional upset each time the group of residents in the house was changed. A changing personnel has been considered to be further unfair to the child in that it gives him no one to whom he can appeal permanently for protection and affection. Many have also believed that it is exploiting a child to put him in such a situation when he might have been placed in a normal home. On the other hand, the advocates of the plan believe that the training received by a child in a home management house is as good as that in any family and better than that in an orphan's home. Despite the vigor with which both sides of the case have sometimes been stated, we have little information which can be said to be based on adequate data derived from accurate records of careful observations. The study here reported was undertaken as a first step toward supplying such information. While it is by no means extensive enough for its results to be considered conclusive, it may be sufficiently significant as an illustration of method to warrant brief description.

The study was made at Iowa State College in the Division of Home Economics. It was under the direction of a child psychologist who is a member of the staff for child care and training. The person who made the actual investigation was a member of the home economics faculty and a resident adviser in one of the three home management houses in which the study was made.

Daily observations were made of three children, one in each house, over a period of about eight months. The family background and general condition of each child had been investigated before they were taken into the houses, and special physical examinations were given before the study began. Two of the children, Dick and Mary, were five months old when the study started; and Ruth, twelve months.

[1] Based largely on an unpublished master's thesis by Onica L. Prall, Iowa State College.

Daily observations of the children were made and recorded on special mimeographed forms devised by the child care and training department. In addition to the observations and records made by the investigator, others were made regularly by the students who were in residence in the various houses for six weeks at a time. The students' records were carefully checked and proved a valuable aid to the investigator. So that the girls might know better what to watch for, lists of behavior traits were posted in each house; the girls were also advised to be on the lookout for other traits.

The time at which the observations were made varied somewhat from day to day as did also the length of the observation period. During that period all the activities of the child were recorded, and at the end of the day's observation these were classified according to Gesell's method.

Summary charts compiled at the end of each month allowed comparison of the child's development with normative summaries given by Gesell (1) and Fenton (2). Simple performance tests suggested by Gesell (3) were given at intervals of two weeks and the results recorded on an individual chart for each child. During the last month of the study, a physical examination was given by the same physician who had examined them at the beginning.

Height-weight graphs were kept throughout the year, and records were made of any special treatment. A mental test was also given at the end.

The data thus gathered showed the physical development of the three children to be superior. Nutritional defects had been corrected, and the children maintained a good physical status, having no illness, not even colds—a rather unusual record. At the end of the investigation the examining physician pronounced them in almost perfect physical condition.

In motor development they were all average or above according to the norms suggested by Gesell and Fenton. In one or two instances Dick was a little slow at the beginning, but his development became more rapid the longer he was in the home management house.

In language development Dick was somewhat below average. During the thirteenth month, Ruth was below average also, but by the end of the nineteenth month she equalled the average. Mary was much above average in this respect.

In adaptive behavior Dick appeared to be one month below average. Ruth and Mary were average or above throughout the investigation.

In social development all showed a marked improvement and were average or above at the close of the investigation.

These facts seem to indicate that the rate of mental growth was somewhat accelerated as the term of residence lengthened. Judging by the norms and tests, Mary seemed to make the greatest advances. At six months she did not exhibit all of the traits given as norms for that month, but at nine or ten months she showed some twelve-month traits and her mental score was higher than at six months.

The mental tests given at the end of the investigation support these results. Ruth, at nineteen months, had a mental age of nineteen months; Mary at thirteen months, showed a mental age of fourteen months; and Richard, at thirteen months, showed a mental age of twelve months.

The children showed a consciousness of strangers at times, but there was no evidence of emotional disturbances due either to the rotating personnel within a group or to changing from one group to another at the end of the six-weeks' residence period. The same resident adviser was always present for the child to appeal to and its permanent affection was fixed on her.

In so far as this single, brief study may be said to show the effect on children of life in a home management house, it would indicate that such conditions are fully as favorable to physical and mental development as those found in the ordinary home and do not make a child unhappy or deprive it of the feeling of belonging to some one. It is hoped that more studies of similar kind may be carried out until we can base our answer to this important question on well-substantiated facts.—ONICA L. PRALL and THOMAS F. VANCE, *Iowa State College, Ames.*

REFERENCES

1. GESELL, A. L. Infancy and Human Growth. New York: The Macmillan Company (1928)
2. FENTON, J. A Practical Psychology of Babyhood. Boston: Houghton Mifflin Company (1925)
3. GESELL, A. L. The Mental Growth of the Preschool Child. New York: The Macmillan Company (1926)

The Home Department of the Eastern States Exposition. This department of the exposition, which has its permanent home in Springfield, Massachusetts, celebrated its tenth birthday during the annual exposition week in September, 1929. The department was organized to keep the homemakers visiting the Exposition informed of the progress made in the fields of agriculture, industry, and research as it affects the home and does this through exhibits, demonstrations, and lectures.

Until within the past two years, the department has been housed in a group of portable buildings which, while most efficient for exhibit purposes, were not especially decorative or in harmony with the beautiful state buildings on the other side of the Avenue. Gradually the portable houses are being replaced by charming early New England homes, so that at present the group represents, in part, the heart of an early New England village. Town hall, blacksmith's shop, school house, and a barn are still to be added.

The group now includes a stately old church from Webster, New Hampshire, a comfortable farm house from West Brookfield, a Cape Cod house from South Eastern Massachusetts, a country store and a tavern from the village of Prescott in the Swift River Valley in Western Massachusetts, a unique lawyer's office from Carver near Cape Cod, and a beautiful old mansion from North Brookfield. These buildings have all been moved from their former sites, have been perfectly restored, and are now used by the home department for exhibit purposes as well as to preserve these specimens of typical early New England architecture. Each year at least one of the old houses is furnished as it may have been in earlier times. This year the North Brookfield house, known as the Potter Mansion, was furnished in keeping with the date of its original construction, just previous to the Revolutionary War.

The crowds going through these buildings everyday during the week of the annual exposition are sufficient proof of present interest in early architecture and in the substantial, useful, and beautiful furniture of those days. This "New England village" has also come to be a meeting place for home economists from all over the United States as well as for homemakers and casual visitors to the exposition.

It is probable that the village will play its part in the tercentenary celebration of western Massachusetts in 1930. The setting is perfect for pageants and exhibits showing life in the early days of Massachusetts. In that case, the buildings will be open to the public from early June through October. A camping site will be provided nearby for those who come from a distance and wish to live in the open. The old tavern will be used for a coffee shop, and the old country store will revert to its original use and will sell souvenirs of colonial days. Each of the charming old houses will have its own old fashioned garden; and the Cape Cod house will also have, near its kitchen door, an herb garden in which will be growing the herbs which were indispensable for flavoring and for medicinal purposes in the early life of this country.

During the week of the Exposition, September 14 to 20, 1930, the regular programs will be carried out by a group of home economics women in business and by homemaking departments of colleges, schools, and clubs. Up-to-date, modern, efficient kitchens will vie with the delightful old kitchens of our grandmothers' days. In one old kitchen an up-to-date cooking school will demonstrate modern methods of preparing and using foods; while in another the demonstrator will use the old fireplace, the brick oven, and the equipment and utensils with which housekeepers of the period when the house was new prepared the meals for the family. The blacksmith will be busy reproducing the hinges, latches, and fire sets used in the old houses; and an old fiddler and prompter from the Berkshires will furnish music in the old ball room for those who wish to enjoy the early American dances. In fact, among other things this old New England village will show living conditions of Colonial times side by side with the most modern developments in homemaking. How much of the charm of the old home has been lost in the efficiency of the new, and how much can be retained are questions which this new old village may help us to answer.—KATHERINE W. HERRON, *Director Home Department, Eastern States Exposition, Springfield, Massachusetts.*

Consumers' Research and the Home Economist. In the last two or three years the study of the consumer's problems has steadily been gaining ground. Previously the consumer was a being scarcely encountered outside of text books on economics—and even there quite fleetingly; while now the public seems to have become distinctly "consumer conscious." As a result, the home economist may feel the need of clarifying her attitude toward the subject.

In so far as her work is focussed on the economic and technical phases of homemaking, the home economist occupies an important position in the social trio of producer, distributor, and consumer; and as housewives buy the greater part of goods used for ultimate consumption, it seems clear that the education of women as consumers must be an important task for the home economist. Seen in that light, she becomes the professionally-trained representative of the consumer. That the American Home Economics Association really accepts this function is obvious from the active stand the Association has taken with respect to standardization projects relating to the home.

There is no doubt that consumers are in dire need of such leadership. Under existing conditions, they are indeed no match for the other two economic groups—the producers and the distributors. These two are

highly conscious of their place in the life of the community. The members of each are firmly united in trade associations; they have their trade publications, and also their strong representation in political life, direct and indirect—consider, for example, the expert and organized forces in the recent high tariff manœuvres. Moreover, the members of these groups are for the most part specifically trained for their work.

Among the consumers, on the other hand, there is certainly very little "consciousness of kind," to use Gidding's famous phrase; they do not think of themselves primarily as users of goods, but rather as belonging to one or another of the many occupational groups in society; even housewives with no outside occupation will probably, in most cases, regard themselves as wives and mothers, rather than as the purchasing agents for the household. In the last analysis then, consumers form a vast, vague, shapeless group—with no organization, no education for their exceedingly important and difficult function, no social or political representation—in fact, wholly passive and inarticulate.

And how does the consumer, this weak and helpless being, fare in our struggling, fighting world? We all know that he is very badly off, and at times he suspects it himself but feels utterly powerless and bewildered. Romanticists hope for help from the state, which, one sometimes suspects, is regarded as an austere but friendly godfather who sits over and above society, surveying it in a detached manner, and securing for each of his children their due rights. However, the sober facts tell us otherwise; the state is not, and cannot be, an impartial body. On the contrary, it reflects strongly the attitude of the most aggressive groups in society, which is indeed the only way it can function. So much the worse for the passive consumer! His voice is not heard and even the state may forget his existence. To sit back and expect the state to protect him will, therefore, lead to nothing. He must himself take the initiative. But at present so predominant is the influence of producing and distributing interests that activity on behalf of the consumer is likely to be viewed with suspicion as "radical." This will, of course, always be the case with any movement which, even in the mildest way, seems to set in motion forces against the established social equilibrium; but when a fundamentally sound movement has once gained a foothold, it soon reaches the status of respectability and is accepted even by those who previously opposed it. This is, as far as the consumers' movement in the United States goes, a vision into the future; present attempts at helping the consumer have hard sledding.

Consumers' Research is the organization most clearly directed toward

this aim. Organized two years ago as the Consumers' Club, and more recently incorporated as Consumers' Research, it has as yet barely 2,300 members and is leading a precarious existence in spite of the splendid support given by outstanding economists and sociologists. That it may be the beginning of a very powerful movement seems probable. It is the writer's personal impression that the American public, far more than is the case in Europe, has reached a state of resistance to the ceaseless pressure of advertising and sales activity which may readily crystallize into action when properly stimulated.

The home economist, through her close contact with the homemakers of the country, is in a particularly strong position to hasten this development. That this is widely recognized is apparent from the attention paid to her by manufacturers, advertisers, and distributors, who, in a more or less subtle manner, compete for her favors; and so magnetic is the attraction of these powerful and highly integrated groups, that, in many instances, they succeed. Still, to fulfill her logical function, it would seem that the home economist should throw in her lot quite frankly with the consumer. In the long run she will also, I believe, gain professionally by adopting this point of view. As yet the work may have slightly the aspects of an unpopular cause, but there is no reason to suppose that this should be more than a temporary situation. Her contribution may take various forms: establishing courses in marketing or household buying—"buymanship" as Benjamin R. Andrews called it in his paper entitled "The Home Woman as Buyer and Controller of Consumption" in the *Annals of the American Academy of Political and Social Science* for May, 1929; conducting research along these lines and, quite as important, publishing the results of such research; and, last but not least, lending support to this single-minded, but basically scientific organization which welcomes the home economist as its most valuable and influential member.

For those who are not yet acquainted with the enterprise, it may be added that Consumers' Research is a non-profit-making body, entirely supported by the ultimate consumers, which attempts to increase the purchasing power of the average family by making available the results of unbiased technical and economic research, mostly dealing with trademarked products. Its dues are but $2.00 a year, a low figure made possible only by the generosity of a philanthropist interested in the problems of the ultimate consumer.—MATHILDE C. HADER, *Executive Secretary, Consumers' Research, Inc., New York City.*

A Study of Time Spent in Dishwashing. Dishwashing is a time-consuming, routine task which most homemakers would gladly see reduced. Hence any information is welcome which suggests how the task may be accomplished in the minimum of time and with the maximum of satisfaction to the workers. The brief study here reported was planned to show whether under given conditions dishwashing was performed in the least time by one, two, or three workers; and since the results refer to one household only, their chief interest probably is in illustrating a method by which such a question can be studied.

In the household in which the study was made, the number of persons served at a meal averaged about four. No effort was made to standardize the meals or service or to consider the efficiency of the dishwashing equipment. The meals were simple, and no baking was done at home. Breakfasts consisted of fruit, cereal, toast, and coffee. For lunch the menu usually included toast, egg, fruit or salad, and perhaps a vegetable left over from the previous dinner. The general plan for dinners was to provide a simply-cooked meat dish, potatoes, another vegetable, a salad, and fruit for dessert. Milk was served at lunch and dinner. The meals were eaten in the dining room, and all the table dishes were carried into the kitchen at the end of the meal.

Comprised under dishwashing, were clearing the table, putting away the food, stacking and washing the dishes (including all that had been used in preparing the meal), wiping and putting away the silver and glassware, setting the other dishes to drain, cleaning the sink, caring for the garbage and garbage pail, washing the dishtowels; and, once a week, washing the bread box. Dishwashing was ordinarily done twice a day, the breakfast and lunch dishes being washed together at noon, though on some days this was not the case.

During the 33 days of the study, the same three women did the dishwashing; on some days one worked alone; on others, two together; on still others, three together. Careful record was kept of the minutes spent over each batch of dishes and of the number of persons served at each meal. The total daily time spent in dishwashing averaged 47.4 minutes; and the time per meal, 15.8 minutes. The total number of individual meals served was 388, which gave 4 minutes as the average time spent on dishwashing per person served.

For a more detailed analysis, it seemed wise to include only the records from the 19 days on which the dishwashing was done twice a day and to disregard the 14 days on which some other procedure was followed. The results are summarized in the accompanying table.

In the family here studied, two workers washing dishes together appeared to finish the task in about half the time required by one person alone; when a third was added, the time was only slightly less than for two. This might be explained in part on the ground that when two persons worked together, both could work at about the same speed; but when there were three, one or two would have to slow down to let the rest catch up.

Judged by the total minutes spent per day, the most economical use of time was made by the single worker, and the least economical by the team of three. It seems likely that the sum of motions made by one person in washing dishes is less than the sum of those made by two or three working together. Moreover, the arrangement and equipment of the kitchen in which this study was made, were perhaps better adapted to one worker than to more—a condition which may not hold everywhere.

Average time spent by 1, 2, and 3 workers in washing dishes for a household

NUMBER OF WORKERS	NUMBER OF DAYS	TOTAL NUMBER OF INDIVIDUAL MEALS SERVED	TIME SPENT IN DISHWASHING				
			Total for entire study	Total per day	Average per worker per day	Average per worker per batch of dishes	Average per individual meal served
			minutes	*minutes*	*minutes*	*minutes*	*minutes*
1	5	57	364	72.8	72.8	36.4	6.4
2	5	63	196	78.4	39.2	19.6	3.1
3	9	110	286	95.1	31.7	15.9	2.6

In practical experience, other elements than the mere economy of time may effect the desirability of having more than one worker. The pleasant sociability of working together would in many households justify the slight loss of time because it lessens the drudgery of the task, especially if, as in the present study, two workers used time almost as economically as a single one.

The figures in the last column of the table also are suggestive in connection with the drudgery of dishwashing. When one worker did the dishes alone, the task took 6.4 minutes for each person served at the meal; this was reduced to 3.1 minutes with two workers and to 2.6 with three. Under conditions like those of this study, if the dishes are washed by one member of the family alone, those for each person served use up over 19 minutes of the worker's time a day, and about two and a quarter hours a week; when one other person helps in a family of four, he saves the single worker over half an hour a day. Whether such help should be

offered or expected depends, of course, on what use would otherwise be made of the time, and on many other conditions which vary with the household.

In general, the study agrees with ordinary observation and experience in indicating that when all the members of the family are working, it is most efficient to leave the dishwashing to one person; but that when some are at leisure and it is desired to shorten the time spent in dishwashing, a team of two or possibly three is more satisfactory. The study also suggests the desirability of knowing more about the effect of different kitchen arrangements, equipment, and methods of work on the time required for dishwashing and on the feeling of the worker toward the task.—ELLA M. CUSHMAN, *College of Home Economics, Cornell University, Ithaca, New York.*

The Automobile Savings Club. The writer is the charter member of this club. Maybe it is a new kind to you? But why not such a club?

It always seems to me that the consumer is getting the fag end of most bargains. He is the "ultimate consumer," and as such consumes all the expenses that accrue by the wayside.

For instance, take this new-fangled installment buying. People used to earn their money and then buy. Now they buy and then hope to earn their money. Our neighbors are paying installments on homes, automobiles, radios, electric sweepers, and even babies. And many of these acquisitions, including the babies, are on the dump heap before their cost is paid. It reminds me of the old saying about it being hard to pay for a dead horse. And what a worry it is!

Somewhere a store has this slogan, "Buying for cash, we buy for less; selling for cash, we sell for less." If that is true, then we consumers are on the wrong end of the installment chain. Why not get at the head instead of the tail end? Why not pay the installments before the thing is purchased rather than after it is used? I am experimenting on this method and find it great fun.

A year and a half ago I purchased a new car and had a little difficulty in raising the money to pay cash, as I preferred to do because I did not wish to pay the high rates of interest and carrying charges. After the car arrived in its bright new coat I said to myself, "You had a hard time paying for this, how will you buy the next one? Why not begin to buy the next one now?" Which I did.

I estimated my depreciation at one cent a mile and began my Automobile Savings Club by paying that amount of depreciation into the Build-

ing and Loan Association. I checked up on my Club after the New Year got under way, and discovered that my car had gone over 17,000 miles and my club deposits amounted to $170. In addition, the association had paid me $7.12 for allowing them to watch me have my fun. My interest will grow much faster next year because of the increasing balance.

Why not do all installment buying that way? Then buy for cash and save the difference.—D. EARL DANIEL, *Dayton, Ohio.*

EDITORIAL

The Denver Meeting and the White House Conference. The connection between home economics and the work for the White House Conference on Child Health and Protection grows closer as plans develop. The organization in the education section of the Conference of Dr. Stanley's subcommittee on the family and parent education, described in the March JOURNAL, showed some of the important points of contact. Others will develop in Dr. T. B. Wood's subcommittee on the school child. Late in March Miss Martha Van Rensselaer, on leave from her regular work as head of the College of Home Economics at Cornell University, joined the staff of the director of the Conference to make such relations yet closer.

That the White House Conference will be much in the thought of the American Home Economics Association at the annual meeting in Denver, June 24 to 28, is inevitable. In order to utilize to the best advantage this exceptional opportunity to promote cooperation between the two, the Colorado program, as described in the January JOURNAL and *Bulletin*, is undergoing a few changes.

The White House Conference and its relation to home economics will be briefly discussed at the business meeting on Wednesday morning. This will serve a double purpose: it will tend to bring emphasis throughout the meetings on the rôle of home economics in child health and protection, and it will give the various sections and committees the longest possible time to consider how they can best adapt their activities to the needs of the Conference. How home economics can best serve these needs will probably be outlined by Dr. Barnard, director of the Conference, Dr. Stanley, and Miss Van Rensselaer.

The general theme of the Denver meeting, "The Modern Family and Its Home," lends itself admirably to a discussion of the White House Conference—is, in fact, merely another way of stating the idea underlying the Conference and the contribution which home economics can make to it. In the fields of child development and of education the rôle of the family and the home is recognized by all as of first importance, and any program for promoting the health and protection of the child must take account of the influence of home surroundings, family relationships, and the need of educating parents, actual and prospective, for their

manifold responsibilities. These circumstances and responsibilities have, some of them, made their appearance so recently or changed their guise so completely that experience and tradition cannot be relied on as the only guides. To supplement such lacks in our understanding of the functions of the family and the development of its members is the underlying purpose of home economics, and much of its recent progress, especially in the public schools, has been along precisely these lines. Practically all phases of home economics find their place in a discussion of the present-day family and its surroundings, and by the same token all will discover their relation to the national program of child health and protection which is the hoped-for outcome of the White House Conference.

The Denver Meeting—Practical Information. Although for a time the JOURNAL OF HOME ECONOMICS was the chief means used by the American Home Economics Association for communicating with its members, the Association has recently revived the regular publication of its *Bulletin* and uses the four issues of each year (October, January, April, and May) for transmitting information regarding distinctly Association business and details about travel, hotels, and other practical matters connected with its annual meetings. Accordingly, members will find in their January and April *Bulletins* (the latter to be issued about the middle of the month) information of help in arranging plans for attendance at Denver, June 24 to 28, 1930. The preliminary program of the meeting will be carried in the *Bulletin* which is due for publication toward the end of May. Persons not members may purchase copies of the *Bulletins* at 25 cents apiece, or may subscribe at the rate of $1.00 a year; address American Home Economics Association, 101 East 20th Street, Baltimore, Maryland.

Meanwhile, the JOURNAL allows itself the pleasure of arousing interest in the business and meetings of the Association by calling attention to some of their more general features.

Conference and Recommendations on Textile Research. Conspicuous among recent indications of the increasingly definite and active interest felt by home economists in textile research was a conference of research workers in this field which was held at Kansas State Agricultural College on February 5, 6, and 7. The Conference was called by Miss Lillian Baker, chairman of the research committee of the textile section in the American Home Economics Association, and it brought together

about twenty persons, including Miss Ruth O'Brien, head of the division of textiles and clothing in the Bureau of Home Economics, United States Department of Agriculture, and representatives of educational institutions within a reasonable distance of Manhattan: State Agricultural College, Kansas; State College of Agricultural and Mechanical Arts, Oklahoma; State College of Pennsylvania; State Teachers College, Hays, Kansas; State Teachers College, Pittsburg, Kansas; Purdue University; University of Illinois; University of Minnesota; University of Missouri, University of Nebraska.

The purpose for which the conference was called was to consider how College departments of textiles and clothing can best further the research of which they all feel the need, but its findings were perhaps even more significant because more specific.

A résumé of the field and the parts of it in which the lack of reliable, basic information is most apparent suggested possibilities for cooperative projects in which workers in several institutions might participate to general advantage. There was also discussion of the best modes of attack and of problems connected with the standardization of analytical methods. In order to obtain wider consideration for these points, resolutions were drawn up which are to be presented to the clothing and textiles section of the American Home Economics Association at its meeting in Denver next June.

One paragraph of these resolutions concerns the need of fundamental research in various phases of textiles and clothing, and the suggestion that at present this research might be best directed toward assisting "the consumer in the intelligent utilization and maintenance of wearing apparel and fabrics for household purposes."

Another paragraph deals with the importance to the success of research of adequate library and laboratory facilities; well-trained personnel; strong courses of graduate calibre; strong sustaining work in allied departments; and, to stimulate interest in such work, adequate undergraduate courses and also awards and fellowships for advanced students.

Suggestions presented to the Association of Land-Grant Colleges for the selection and organization of subjects of research and amplified to apply to the textile field were adopted by the Conference and submitted to the section as a guide to procedure in textile research.

Hearty endorsement was given to the work of the section's committee on analytical methods, and it was urged that the methods recommended by that committee be adopted in the physical and chemical phases of textile research to which they are applicable.

It was recommended that the section appoint a committee to suggest lines of study and investigation which would give the special training needed to pursue research in the various parts of the field, and to suggest what applications of and contacts with the related, basic sciences would prove most stimulating to the right spirit of investigation in the textile field.

The Conference also went on record as believing that the greatest service which the division of textiles and clothing in the Bureau of Home Economics could at present render to the development of textile research in college departments was to carry on research which will lead to standard methods; to publish bibliographies of scientific investigations made in different parts of the field; and to act as a clearing house for the results of research in textiles.

The final resolution drawn up by the Conference recognized the importance of obtaining larger appropriations for textile research both in the states and in the Bureau of Home Economis, and urged that the American Home Economics Association take active steps to obtain adequate financial support for a broad program of such research.

Program of Textile Research in the Bureau of Home Economics. The paper by Ruth O'Brien on pages 281 to 287 is the outgrowth of a memorandum she prepared for use at the conference on textile research described in the preceding editorial. It seems of exceptional significance for several reasons. It is probably the first published attempt to present a fairly comprehensive outline of the more important phases of possible research in textiles and clothing as these affect the consumer. It suggests important problems to which the attention of many students of the subject has probably never before been specifically directed. It will be a godsend to those concerned with the planning of textile research in the present pioneering period. In its grasp of underlying principles, in the methods of work and the quality of workers called for, it leaves no doubt as to its scientific value. While indicating wide lines of investigations which would require much time and money for completion, it shows how these may be gradually developed with due regard to practical considerations and with a steady output of results valuable in themselves and at the same time contributory to the larger purpose. And it will serve as a guarantee of the ability of the Bureau of Home Economics to handle a long-time program of research in textiles in a way which will justify the necessary increase in appropriations for this purpose.

What has already been accomplished with the small sums available is

noteworthy. The largest annual appropriation for the Division of Textiles and Clothing has been hardly over $26,000. During the five years in which it has been at work, it has, under Miss O'Brien's direction, put out 15 bulletins, circulars, and leaflets, and three bibliographies, not to mention numerous contributions to technical journals, more popular magazines, and newspapers. It has established its leadership in textile research in the home economics field and has won the confidence of both commercial concerns and other government agencies. The work already done, has been planned to yield timely, immediate results while it promotes development of far more comprehensive studies. The friends of home economics and those interested especially in textiles can urge more generous support for the Division with full assurance that the money will yield returns generous in quantity and of a quality that will strengthen both the Bureau and the general standing of home economics.

Standardizing Stockings. Readers of Miss Rosamond Cook's articles on "Problems of Consumer Buying" and "A Consumer Study of Hosiery Advertising" in the JOURNALS for February and December, 1929, will be interested in the following paragraphs from *The Brooklyn Eagle* for December 29, 1929:

> There's no doubt that Woman, as Woman, has a fair complaint against the purse-emptying stockings of modernity. Welfare associations report that fifty-two pairs a year for a working girl do not mean extravagance, only self-respecting attention to dress. Hosiery has come close to balancing all other necessary clothing in cost. It is high time for science to take a hand in the game.
>
> An address by Miss Rosamond Cook of the Home Economics Department of Cincinnati, before the Association for the Advancement of Science, presents the results of a survey showing that "women who buy for durability fail to get it; that those who buy for appearance get even less durability, and that price is no criterion of quality." Silk stockings were reported as costing from $1.50 to $2.95 a pair but laboratory tests showed the cheaper grades as having more durability.
>
> The immediate plan is for women to cooperate with manufacturers for standardization. That is good, so far as it goes. But science accepts standardization only as a half-way house. It should be able eventually to offer to buyers silk hosiery as attractive as is now sold and as durable as cotton ever was. The washerwoman will do the rest. It is impossible not to suspect that manufacturers in exploiting a conceivably fleeting feminine fashion have been making hay while the sun shone. Durability lessens sales instead of increasing them.

Such comment is encouraging evidence that at least some of the general public see the point of the home economist's contention that to buy intelligently the ordinary consumer needs more information than she can

obtain by looking at goods and prices, and also suggests one reason why certain producers whose eyes are fixed more on immediate returns than on the establishment of permanent confidence do not whole-heartedly hasten to her relief. And we can all think of other commodities to which the same principles apply that Miss Cook has demonstrated in the case of the much-talked-of silk stocking.

Housing and Home Economics. Housing is a section of the home economics field in which, for one reason or another, development has not kept pace with that in other sections. What kinds of information are and are not available was the subject of editorials in the JOURNAL OF HOME ECONOMICS for July, 1929. That home ecomomists are becoming increasingly conscious of the need of more complete, up-to-date, and accessible material and methods of presenting it, is reflected in the action of the home economics section of the Association of Land-Grant Colleges and Universities last November, when Miss Marlatt was made chairman of a committee to consider the teaching of housing in those institutions.

During the coming months the JOURNAL hopes to contribute to the subject by printing articles by specialists in various phases of it, in which the point of view of the persons who are to use the house will be kept to the fore, rather than those of the realtor, architect, contractor, or builder.

The first of these papers is Miss James's discussion of zoning on page 270. Although it is informal in style, one discovers, on analysis, that it brings out clearly the main arguments for zoning, especially those which appeal to the individual householder. If anyone wishes to study the subject further, there are Miss James's book, "Land Planning in the United States for the City, State, and Nation" (Macmillan, 1926), valuable bulletins from the United States Department of Commerce, the Proceedings of the National Housing Association, the files of *Housing*, and many other publications which can be traced from these or from the usual reader's guides.

Light in the Treatment of Disease. This has been the subject of so much loose writing in newspapers, magazines, and advertisements that the ordinary person cannot tell what he should and should not believe of all that he reads. In the midst of this confusion, the public is indebted to the United States Public Health Service for issuing a news release which presents an authoritative summary of the situation and which seems well worth quoting here.

It is known that light may have a beneficial effect in certain diseases. Some diseases respond to light treatment more readily than others. The response also depends upon the severity of the disease, the state of immunity, and personal idiosyncrasies. Light has been used with benefit in certain forms of anemia; in the treatment of diseases due to faulty assimilation; in the deficiency diseases due to lack of vitamins; in tuberculosis of bone, joints, and glands; for the cure of local conditions such as wounds and ulcers; and for the relief of deep-seated congestion, neuritis and certain skin diseases. Light is of value in the cure and prevention of rickets; it promotes growth; and it is of value in restoring tone and function during convalescence from severe infection.

Since the amount of natural light from the sun, and especially its ultra-violet ray content, varies with the geographical location, the season of the year, and such local conditions as the amount of dust, smoke and moisture in the atmosphere, under some conditions, reliance may be placed on sources of artificial radiation. These sources are generally called lamps, or radiators.

There are different types of lamps used for the production of artificial light for therapeutic purposes; first, those that emit heat, light, and ultra-violet rays in approximately the same proportion as sunlight; second, those in which ultra-violet rays predominate; and third those that emit light and heat, but little ultra-violet light.

The lamps of the first type have white hot filaments, or electrodes, which radiate light and heat, and have also incandescent mercury vapor, or a carbon arc, which radiates ultra-violet rays. In these lamps the incandescent mercury vapor, or the carbon arc, is shielded from the person using it by a globe, or plate, of a special kind of glass which cuts off the very short ultra-violet rays which might be harmful. These lamps are so designed that the ultra-violet, light and heat radiations emitted by them are combined, as nearly as possible, in the same proportions as in natural sunlight. Since the radiation from them is very similar to sunlight, they may, to a certain extent, be used in place of, or as a substitute for, sunlight. If these lamps are to be used in the treatment of any disease or over long continued periods of exposure, one should have the advice of a competent physician. At all times caution must be observed in exposing one's self to any lamp. When using these lamps it may be necessary to use goggles to protect the eyes.

The second type of lamp, such as the unscreened mercury vapor, or the unscreened carbon arc lamp, besides light, heat and antirachitic ultra-violet rays emits a large amount of ultra-violet rays of very short wave length. Such lamps should only be used upon the advice and under the direction of a physician. The large amount of antirachitic ultra-violet light emitted by them makes them very useful when operated by the physician, but dangerous when used by the layman without the advice of a physician. For the same reason such lamps should never be used without goggles to protect the eyes. Excessive or improper use of ultra-violet rays may cause serious injury to the eyes, injury to the skin, serious symptoms in persons with low blood pressure, and unfavorable effects in persons with early tuberculosis. Exposure to ultra-violet radiation may cause restlessness and, in overdoses, anemia. Severe burns are also sometimes experienced.

The third type of lamp is similar to the ordinary incandescent lamp used in electric lighting. It emits both light and heat. The very small amount of ultra-violet light emitted by it is of long wave length and is negligible in quantity. The rays of light

and heat from these lamps heat the skin and the superficial tissues. They have been found to be useful in the treatment of rheumatism and similar troubles. The only danger from them is that of a burn such as would be experienced by exposing the skin in front of a hot fire.

It will be evident from this discussion of the different types of lamps in use that a lamp that would be useful for one purpose would not be useful for another, and indeed might have a harmful effect. It is evident that a person without medical training should not select and use a lamp at random, but before purchasing and using a lamp should consult his physician.

"Goodbye to All That." Do many readers of the JOURNAL OF HOME ECONOMICS also read the *Saturday Review of Literature?* Those who do, will surely forgive us if we lift a few scattered paragraphs from the recent editorial for which Professor Canby took the title of Mr. Robert Graves's new book because it was "far too good not to steal." And those who haven't seen it—well, if they don't forgive us, we don't much care.

Just by way of getting started properly, we begin at the beginning, though that part can't be said to have much connection, even indirect, with home economics.

> Good-bye to all that! Good-bye to long dull stories of morons tangled in their own crude desires, stories proclaimed for their truth, as if the truth about insignificant experience ever really mattered. Good-bye to sexy narratives that go just beyond decency and stop just short of wit . . . .
>
> Good-bye to books that solve every American problem by prosperity and confuse happiness with cleanliness and success with a full stomach and indigestion afterward. Good-bye also to the carpers on the other side who are determined to bite their nails and be gloomy . . . .
>
> Good-bye to pseudo scientific manuals on how to live from the cradle to the grave, which explain everything except how their authors came to be such astonishing fools as to suppose their books were either science or sense . . . .
>
> Good-bye to writers who slide like a flatting tenor just a little away from everything they try to say, expressing themselves with just enough inaccuracy to seem to be writing English until you take the trouble to investigate.

What Is a Home? There are certain questions in which interest seems perennial. We do not refer now to such hopelessly insoluble problems as "How old is Anne?" or "Why is a mouse when it spins?" or matters of such strictly personal taste as "What would you rather do or go a-fishing?" but rather to those which open the door to such an enticing assortment of intangibles that there is practically no limit to the verbal combinations

and sentimental connotations that can be used in answering. The question "What is a home?" belongs in this category, and every now and then we find it popping up into more or less prominence.

The National Association of Real Estate Boards probably realized this when it offered $250 as a prize for a "more comprehensive definition of the word 'home' than is contained in the dictionaries," and the result proved their knowledge of human nature. According to the *New York Times*, 10,090 definitions were entered, ranging from the humorous, such as "Home is the place where you lose your day off after you get one from your job," to that by the prize-winner, a 50-year old school teacher, who called home

> A domestic santuary—wrought out of desire—built into memory—where kindred bonds unite the family in sharing labors, leisure, joy and sorrows.

Commenting on this, one of the judges (they were the president, vice-president, and executive secretary of the Association) says,

> Read Miss Williams's definition and you feel the scent of flowers in carefully-tended gardens, you see bright, hospitable fires, and you hear the happy voices of contented people.

And all three joined in reporting that

> With warm, vibrant strokes, Miss Williams, in the space of twenty-five words, set forth the ageless meaning of home that puts to shame the cold, sharp sentences in English dictionaries.

It seems that when the results of the contest were published some of the dictionary-makers wrote to newspapers defending their more arid definitions, but this did not trouble the donors of the prize. Said their spokesman:

> We think that it is a good thing to redefine our terms every little while, especially terms that have to do with our feelings. Certainly it can do no harm, and it may do some good, to see a few more definitions of a word that should be more on the public mind than it has been in the past.

Personally, we prefer to have the definitions in our dictionary as brief as is consistent with accuracy, and we feel skeptical about including anything so variable as the "feelings" aroused by a complex idea like that of home, but we heartily approve of occasionally questioning the accepted meaning of things, and we agree that the more people can be made to think about what a home is and should be, the better for all concerned.

Plans for Home Economics Buildings. The Bureau of Home Economics, United States Department of Agriculture, announces that it is assembling a collection of the plans used for recent home economics buildings in various colleges and will be glad to loan them to other institutions in which such buildings are being seriously considered. It also asks that copies of plans be contributed to the collection by any institutions which erect such buildings.

The value of such a collection is shown by the fact that, within the last eighteen months, the Bureau has sent the plans it has already assembled to Alabama, Maine, Mississippi, Pennsylvania, Kansas, and, quite recently, Connecticut.

RESEARCH

THE OXALIC ACID CONTENT OF VEGETABLES USED AS GREENS[1]

ALICE E. RYDER

State College for Teachers, Albany, New York

The purposes of this study were to determine the oxalic acid content of spinach, which, as is generally known, contains relatively large amounts, and then to compare with this the oxalic acid found in other leafy vegetables commonly used as greens.

Contributory to the study of oxaluria, several surveys of the oxalic acid content of a considerable variety of foods have been made, those by Esbach (1) and Arbenz (2) being probably the best known. Other analysts have done more intensive work on fewer foods, and have concerned themselves not only with total amounts of oxalic acid but also with its distribution and the form in which it occurs. Among these may be mentioned Weisberg (3) who worked with sugar beets; Albahary (4) who analyzed cocoa and chocolate; and van Itallie and Lemkes (5), Tsakalotos (6), Angerhausen (7), and Maue (8), all of thom worked with rhubarb, the analyses being prompted by reports of oxalic acid poisoning from the use of rhubarb leaves as greens. At the University of Chicago, Floyd (9) analyzed cabbage, spinach, string beans, and tomatoes for oxalic acid and Still (10) reported results from twelve samples of spinach. McLaughlin (11) in the course of a metabolism study has made oxalic acid determinations on cooked potatoes and spinach. As far as could be learned no analyses of oxalic acid in the other vegetables included in the work herein reported had been previously made.

The vegetables used in the present study were obtained in the open market during the summers of 1928 and 1929. Three different lots of spinach bought at different times were analyzed. In one lot (Spinach III) leaves under four inches long were separated out, then the remaining

[1] The material presented in this paper is from a thesis submitted by the author in partial fulfillment of the requirements for the degree of master of science at the University of Chicago. The writer wishes to thank Dr. Katharine Blunt for suggestions and helpful criticism during this study.

leaves were divided into two lots, in one of which the blades and stems were separated; these four fractions were analyzed separately. The beet tops used were somewhat older than would ordinarily be cooked for greens, coming from beets from an inch to an inch and a half in diameter. The only sample of New Zealand spinach used was of excellent quality. Two varieties of mustard were analyzed, one very young and tender with rough hairy epidermis; the other much coarser with a very curly leaf. The turnip tops, kale, and dandelion leaves were such as are commonly used for greens.

The vegetables were cleaned; the roots and tough stems were removed; the remaining portions were thoroughly washed; the surplus water was dried off; and then the fresh weight was determined. After this, they were dried to constant weight at a temperature of from 80° to 85°C. to obtain the weight of total solids. The dried vegetables were then finely pulverized with mortar and pestle.

The oxalic acid determinations were made by a modification of the method devised by Bau (12) for the determination of the total oxalic acid content of coffee, tea, spices, and vegetables. The oxalic acid was first extracted from the dried vegetable by dilute acid, precipitated as calcium oxalate, then ignited and weighted as calcium oxide. The details of the method as used are as follows:

A special precipitating solution was made by dissolving 330 grams of crystalline sodium acetate in 300 cc. of warm water and adding to it 25 cc. of crystalline calcium chloride dissolved in 50 cc. of 50 per cent acetic acid. This mixture was filtered, cooled, and made up to one liter; then set in an electric refrigerator at 7°C. for forty-eight hours. After another filtering it was ready for use.

A sample of the dried pulverized vegetable weighing approximately 2.5 grams was extracted by washing with successive portions of a liter of solution made up of 15 cc. of hydrochloric acid sp. gr. 1.12 in distilled water. The filtered extract was made up to volume and thoroughly mixed.

To 200 cc. of this extract 100 cc. of precipitant were added, giving a mixture with a pH of 5. This was shaken vigorously for ten minutes, then put in the refrigerator for from 38 to 44 hours for precipitation.

The solutions were filtered in Gooch crucibles, and the precipitated calcium oxalate was washed to a negative chlorine test with a minimum amount of ice cold water and incinerated to constant weight at high temperature in an electric muffle furnace. The oxalic acid was calculated from the weight of calcium oxide obtained.

The titration from which Bau calculates the oxalic acid present was discarded when identical results, obtained from repeated weighings and titrations, indicated that the calcium as precipitated from this class of material did not contain impurities.

That the calcium precipitated was all oxalate was confirmed by microscopic examination of the precipitate, which was found to consist solely of octahedral crystals with equal axes, varying in size but uniform in shape and identical with those from pure oxalic acid precipitated under similar conditions.

The corrections given for solubility of the oxalate were found by analysis of pure oxalic acid to be too large so a minimum amount of wash water was used and the slight solubility disregarded. It is suggested that by further work it might be found possible to use less of the reagents in the determination of such small amounts of oxalic acid.

The results of the experimental work as shown by the averages of closely agreeing triplicate determinations are summarized in table 1.

TABLE 1

Average amounts of oxalic acid in certain green vegetables

VEGETABLE	TOTAL SOLIDS	ANHYDROUS OXALIC ACID		
		Number of determinations	Per cent of dry weight	Per cent of fresh vegetable
	per cent			
Spinach I	5.7	5	8.52	0.486
Spinach II	9.6	3	6.76	0.652
Spinach III	8.0	*	8.68	0.692
Beet greens I	8.0	2	9.42	0.753
Beet greens II	7.8	1	8.23	0.622
New Zealand spinach	10.2	4	11.77	1.198
Cold water extract of New Zealand spinach	10.2	1	4.28	0.450
Mustard I	7.2	3	0.00	0.000
Mustard II	6.9	1	0.00	0.000
Mustard III	10.3	2	0.00	0.000
Kale	11.5	2	0.00	0.000
Turnip tops	5.2	2	0.00	0.000
Dandelion	8.7	2	0.00	0.000

* In Spinach III, the percentage of oxalic acid present in the entire sample was calculated from the amounts found to be present in its parts.

It can be seen from table 1 that the three lots of spinach showed considerable difference in every particular studied. One lot, in which the oxalic acid content was equivalent to 0.486 per cent of the fresh vegetable, and another, in which it was 0.629 per cent, are practically alike when the oxalic acid is expressed in terms of the percentage of total solids. In Spinach I the determinations of the five different extracts ranged from 0.473 to 0.505 per cent of oxalic acid in the fresh vegetable.

In one lot of beet greens the oxalic acid content was within the range

of the spinach figures but in the second lot it was higher, whether when expressed as a percentage of the dry or of the fresh weight.

The New Zealand spinach was conspicuous for its high percentage of oxalic acid. The range of the results obtained from the analyses of the four different extracts is from 1.173 to 1.222 per cent. One cold water extract was made of this vegetable and was found to contain over 35 per cent of the total oxalic acid present.[2]

In mustard greens, kale, turnip greens, and dandelion greens, no oxalic acid was found. No oxalate being precipitated when the same size samples were used as for the other vegetables, further determinations were made with samples four times as large, but the results were the same. If any oxalic acid at all is present in these vegetables, it must be in such very minute quantities that the use of much larger samples would be necessary to determine it; in this case it would seem advisable to use some other method of analysis.

TABLE 2

The oxalic acid content of spinach as given by various analysts

ANALYST	DESCRIPTION OF SAMPLE	OXALIC ACID PER 100 GRAMS	
		Of total solids	Of fresh vegetable
		grams	*grams*
Ryder	Lot I	8.52	0.486
Ryder	Lot II	6.76	0.652
Ryder	Lot III	8.68	0.692
Esbach			0.32
Arbenz			0.29
Floyd	Average of four samples		0.278
Still	Sample with high content		0.687
Still	Sample with low content		0.53
Still	Average of twelve samples		0.617
McLaughlin	Cooked		(0.712)
Bau	Fresh	9.33	
Bau	Fresh	9.06	
Bau	Dried	12.22	
Bau	Dried	12.26	

The analyses of Spinach III showed that the small leaves contained the highest percentage of total solids and likewise the most oxalic acid, the amount present being 0.976 per cent of the fresh weight, while leaves over four inches long contained 0.706 per cent. The blades of these larger leaves had 0.753 and the stems only 0.347 per cent.

[2] Since this report was written, L. I. McLaughlin has published analyses of eight specimens of New Zealand spinach (*J. Nutrition 2*, 197–202, 1929), which show their oxalic acid content to range from 0.49 to 0.53 per cent.

The oxalic content of spinach as determined by different analysts is shown in table 2. In comparing these figures, one is impressed by the great difference in the results obtained by the various workers. This would seem to indicate that while the production of oxalic acid in the spinach plant is a definite biological characteristic, the amount varies greatly, depending probably both on variety and on cultural conditions. Floyd's results agree with those of Esbach and Arbenz. While the work originally reported in this paper shows amounts only about two-thirds as great as those which Bau obtained by the use of similar methods, they are nevertheless in close agreement wtth those obtained by Still. McLaughlin's findings, while expressed as a percentage of cooked food, also seem to be in harmony with the work here first reported.

Summary and Conclusions. Seven different vegetables commonly used as greens were analyzed for their total oxalic acid content by a modification of Bau's method.

The oxalic acid content of spinach obtainable in the open market in Chicago during the summer months, while varying greatly in different samples, was much higher than is generally supposed, ranging from 0.486 to 0.692 per cent.

Beet greens contained an amount of oxalic acid equivalent to or slightly higher than that in spinach, and New Zealand spinach was found to contain considerably more.

Dandelion greens, kale, turnip greens, and mustard greens were found to contain no oxalic acid.

Whatever the explanation, it is a matter of common experience and observation that the normal individual can, day after day, and with no apparent ill effects, eat large quantities of spinach despite the considerable amounts of oxalic acid which it has been shown to contain. In the occasional pathological conditions where it is considered advisable to restrict oxalates in the diet, it would seem that dandelion greens, kale, turnip greens, or mustard greens might wisely be used instead of spinach.

REFERENCES

1. Esbach, C. L'oxalurie [Oxaluria]. *Bull. gén. de thérap.* [etc.] **104,** 385–415 (1883)
2. Arbenz, E. Ueber quantitive Bestimmung der Oxalsäure in Nahrungs- und Genussmitteln. [The quantitative determination of oxalic acid in foods and condiments.] *Mitt. Lebensm. Hyg.* **8,** 98–104 (1917)
3. Weisberg, J. Vorkommen der Oxalsäure in den Ruben [Oxalic acid in beetroot]. *Bied. Centrbl.* **23,** 788–792 (1894)

4. ALBAHARY, J. M. L'acide oxalique dans le cacao et le chocolat [Oxalic acid in cocoa and chocolate]. *Proc. 7th Intern. Cong. Appl. Chem.* **8c,** 175–177 (1909)
5. VAN ITALLIE, L. and LEMKES, H. J. Het oxaalzuurqehalte van rhabarberbladen en-stelen [The oxalic acid content of rhubarb leaves and stems]. *Pharm. Weekblad.* **54,** 1234–1238 (1917)
6. TSAKALOTOS, D. E. Über den Gehalt der Blätter und Blattstiele von Rheum undulatum an wasserloslichen Oxalaten [Content of Rheum undulatum in water-soluble oxalates]. *Schweiz. Apoth. Ztg.* **57,** 303–304 (1917)
7. ANGERHAUSEN, J. Oxalsäure und die Entgiftung von Rhabarberzubereitungen [Oxalic acid in rhubarb and the rendering non-toxic of rhubarb preparations]. *Z. Nahr. Genussm.* **39,** 81–87 (1920)
8. MAUE, G. Über die Inhaltstoffe der Rhabarberblatter [Constituents of rhubarb leaves]. *Z. Nahr. Genussm.* **40,** 345–350 (1920)
9. FLOYD, L. P. Organic acids of vegetables. Unpublished Master's Thesis, Univ. of Chicago (1923)
10. STILL, K. S. Urinary excretion of organic acids. Unpublished Master's Thesis, Univ. of Chicago (1925)
11. MCLAUGHLIN, L. I. Utilization of the calcium of spinach. *J. Biol. Chem.* **74,** 455–462 (1927)
12. BAU, A. Die Bestimmung der Oxalsäure in Tee, Kaffee, Marmeladen, Gemüsen, und Brot [The determination of oxalic acid in tea, coffee, marmalade, vegetables, and bread]. *Z. Nahr. Genussm.* **40,** 50–66 (1920)

VITAMIN C CONTENT OF THREE SAMPLES OF JAPAN GREEN TEA

HAZEL E. MUNSELL and CHARLOTTE H. MILLER

Bureau of Home Economics, United States Department of Agriculture

The present study is a continuation of the one already reported in this journal (1). Since only one sample of tea had been used in the first assay and no attempt had been made to determine whether the tannin might have been responsible for the results obtained, it was considered advisable to extend the study to include more samples and at the same time carry out tests to determine whether the tannin had a poisonous effect. This fact was determined by feeding the tea in conjunction with a food rich in vitamin C.

One investigator (2) had used an infusion that was somewhat stronger than that described by us and for this reason an additional test dose, indicated as strong tea, was also used in the present investigation. The strong tea infusion was made in the same manner as the other with the

Changes in weight and scurvy symptoms in guinea pigs receiving infusion of Japan green tea or tea infusion and cabbage, as supplements to a basal diet free of vitamin C, during test periods

ANIMAL NUMBER	SUPPLEMENT TO BASAL DIET (6 TIMES PER WEEK)	WEIGHT OF ANIMALS				SURVIVAL	DEGREE OF SCURVY SYMPTOMS AT AUTOPSY
		At beginning	Maximum	At end	Final gain (+) or loss (−)		
		grams	*grams*	*grams*	*grams*	*days*	
158	10 cc. infusion tea No. 1	369	479	387	+18	90	Mild
159		413	512	385	−28	90	Mild
160		401	492	342	−59	90	Mild
163		373	411	305	−68	83	Mild to severe
165	10 cc. infusion strong tea No. 1	383	489	270	−113	81	Mild to severe
166		412	482	280	−132	80	Severe
187	5 grams cabbage and 10 cc. infusion tea No. 1	381	800	800	+419	90	None
189		343	367	327	−16	90	None
167	10 cc. infusion tea No. 2	407	419	235	−172	27	Mild
168		392	442	284	−108	50	Mild to severe
172		384	391	207	−177	34	Severe
173		356	403	238	−118	58	Mild to severe
175	10 cc. infusion strong tea No. 2	419	467	258	−161	39	Severe
179		309	428	232	−77	60	Severe
188	5 grams cabbage and 10 cc. infusion tea No. 2	357	690	688	+331	90	None
190		352	791	787	+435	90	None
183	10 cc. infusion tea No. 3	354	397	238	−116	41	Severe
191		360	398	250	−110	27	Severe
195		412	473	270	−142	44	Severe
196		347	374	250	−97	35	Mild to severe
197	10 cc. infusion strong tea No. 3	366	366	248	−118	26	Mild to severe
198		371	424	234	−137	58	Severe
185	5 grams cabbage and 10 cc. infusion tea No. 3	393	771	755	+362	90	None
186		325	556	551	+226	90	None
162	None	351	427	247	−104	35	Mild to severe
170	None	402	459	285	−117	37	Severe
177	None	367	367	223	−144	24	Severe
182	None	361	413	254	−107	36	Severe
184	None	346	368	205	−141	20	Severe

exception that enough water was added to bring the final volume up to 100 cc. instead of 125 cc. In all other respects the experimental procedure was the same as that described in the earlier report.

Results. The accompanying table gives a summary of the changes in weight and the scurvy symptoms in the test guinea pigs. Of the animals given the weaker infusion of tea Number 1, three survived the full ninety days of the test period, one died on the eighty-third day, and all showed mild symptoms of scurvy at autopsy. The guinea pigs fed the strong infusion of this tea lived to the eightieth and eighty-first day, respectively, and their scurvy symptoms were slightly more severe than in the case of those of the first group. The survival period of the animals fed tea Number 2 was slightly longer than that of the controls receiving no tea, and the scurvy symptoms were somewhat less severe. The behavior of the animals fed tea Number 3 was no different from that of the negative controls.

In all cases where the tea intusion was fed in conjunction with cabbage, the animals grew well and showed no symptoms of scurvy or any other ill effects.

Conclusions. Tea Number 1 contained detectable but insignificant amounts of vitamin C; tea Number 2 contained only a trace; and tea Number 3 did not contain an amount sufficient to be detected by the method used.

Since the condition of the guinea pigs fed both tea infusion and cabbage was normal, the symptoms observed in the guinea pigs receiving tea infusion as the only test food must have been due to lack of vitamin C and not to a poisonous effect of tannin in the tea infusion.

These conclusions coincide with those from our earlier study and are in direct opposition to certain statements made in current advertising.

REFERENCES

1. MUNSELL, H. E. and KIFER, H. B. Green Tea As a Source of Vitamin C. J. HOME ECON. **21,** 514–518 (1929)
2. MATTILL, H. A. and PRATT, A. D. Note on Tea As a Source of Vitamin C. *Proc. Soc. Exp'tl Biol. & Med.* **26,** 82–85 (1928)

BOOKS AND PERIODICALS

NEW BOOKS

Nursery School Procedure. By JOSEPHINE C. FOSTER and MARION L. MATTSON. New York: D. Appleton and Company, 1929, pp. 220, $2.25

This "volume planned for the use of university and normal school students who are working with children of the preschool age" is the first attempt at giving to the public in book form a summary of nursery school procedures. The authors have succeeded in making a careful analysis of all the jobs relative to the daily program of a young child, describing the occasions for certain procedures, prevalent types of procedures used, and value of the particular experience. Frequently, reports of studies are included which bear upon the problems involved.

The book opens with a chapter describing the administration, the types, and the staffing of nursery schools. Then follows a chapter describing the physical, motor, mental, emotional, and social development of the nursery school child. The remainder of the book is given over to discussions of the equipment of the school; the program; the play, music, and language activities; habits of hygiene; food; sleep; social training; clothing; nursery school records; and two chapters which deal with the relationships of the nursery school to the home and to the kindergarten.

Since no attempt is made in the volume to outline the educational principles governing the establishment of nursery school procedures, this book should be used as supplementary to such a course. The selected references at the conclusion of each chapter are perhaps planned to supply this need.

As a whole the book is well organized, easily read, and adequate. The authors have attempted to refrain from giving a direct estimate of the various procedures in use. Occasionally their lack of comment gives one the impression that generally disapproved practices are sanctioned. For example, there are some twenty pages devoted to "organized group play"; in actual practice, nursery schools using organized group activities are receiving considerable criticism. The reader should keep in mind that these are only "prevailing procedures," subject to change with increased knowledge and experience, and that in this field of work it is important to avoid crystallizing procedures with young children or being closed-minded to untried methods.—CHRISTINE HEINIG, *Washington Child Research Center, Washington, D. C.*

The Diagnosis of Health. By WILLIAM R. P. EMERSON. New York: D. Appleton and Company, 1930, pp. 272, $3.00

A well-known, successful worker in the cause of physical fitness, especially among college men, here emphasizes the importance of diagnosing physical condition and of developing "health intelligence" as a means to obtaining and maintaining health, and describes practical procedures by which this may be accomplished by clinics, educational institutions, and individuals.

Getting Well and Staying Well. By JOHN POTTS. Second Edition. St. Louis: The C. V. Mosby Company, 1930, pp. 221, $2.00

"A book for tuberculous patients, public health nurses, and doctors," which gives simple, sensible information regarding the onset, diagnosis, and course of the disease, its treatment in the sanitarium and the home, and the physical and mental conditions favorable to its control.

Women and the Ph.D. Bulletin No. 2 of the Institute of Women's Professional Relations. By EMILIE J. HUTCHINSON. Greensboro, N. C.: The North Carolina College for Women, 1929, pp. 212, $1.00

A study based on 1,025 replies to questionnaires sent out by the Bureau of Vocational Information to 1,575 women who had received this degree from American colleges and universities up to June, 1924. The first part shows "what it means to get the Ph.D."; and the second, includes direct quotations from the replies, showing the personal opinion of the women on the desirability of the degree, the best time to take it, desirable previous experience, possible improvements in the method of taking it, and the later experience of the holders. Valuable for vocational advisers and for students contemplating work for the degree.

Form and Re-form. By PAUL T. FRANKL. New York: Harper & Brothers, 1930, pp. 203, $5.00

A successful designer of modernistic interior decorations and furniture has here assembled over a hundred striking illustrations of buildings, decorations, furniture, textiles, and ornaments which exemplify this style of applied art, and accompanies them with a discussion of its development, fundamental principles, and applications in various lines, including a list of references to magazine articles and books. The book design itself is a striking example of modernistic art which helps the reader to understand the character of the movement.

Food, Health, Vitamins. By R. H. A. PLIMMER and VIOLET G. PLIMMER. New edition. New York: Longmans, Green and Company, 1929, pp. 120, $1.20

A non-technical discussion of the subject first published in 1925 under the title "Food and Health" and now revised to include recent knowledge of vitamins. There are ingenious diagrams representing "a square meal" by the use of concentric circles to indicate the requirements for carbohydrates, fat, proteins mineral salts, and energy, with corners built out to complete the square and representing respectively vitamins A and D, B or B_1, C, and PP or B_1. Based on English food habits, save that it inclines toward the abundant use of whole wheat flour, and in low-cost diets, large quantities of potato, somewhat as advocated by Hindhede.

The Manufacturer and His Outlets. By CHESTER E. HARING. New York: Harper & Brothers, 1929, pp. 190, $3.00

A volume originally written for the executives and salesmen of a large manufacturing concern and intended to give them, as briefly as would be consistent with clarity and accuracy, a picture of present-day retailing, the causes which have produced it, and its probable future. Based mainly on personal observation and study during twenty years in the advertising agency business, but also on standard books on economics and marketing. Deals with general retailing problems and those of the various types

of stores, presenting the subject with the minimum of personal bias.

Tomorrow's Advertisers and Their Advertising Agencies. By GEORGE HARRISON PHELPS. New York: Harper & Brothers, 1929, pp. 256, $3.50

The president of a Detroit advertising firm, who believes that the functions of advertising will increase in number and social importance as improved communications further break down local and national barriers, points out the present trends which lead to this belief and imagines the organization and power that may result.

Inedible Animal Fats in the United States. By L. B. ZAPOLEON. Stanford University, California: Food Research Institute, 1929, pp. 353, $4.00

A technical discussion based on a comprehensive study of the subject, with "special reference to sources of animal waste, the rendering industry, municipal reduction, and some effects of meat inspection." Brings together information which has not been hitherto assembled and contains certain material of value to advanced classes in food economics.

English Costume of the Nineteenth Century. By JAMES LAVER. New York: The Macmillan Company, 1929, pp. 88, $2.00

Some forty-odd plates, a few of them attractively colored, and as many pages of text showing the gradual change in fashions for women and (less completely) for men and children during the last century. Hats, coiffures, and various accessories are included as well as house, street, and evening costumes. A fairly consistent attempt is made to arrange the material by periods of five or ten years, and also to show the connection between social changes and changes in mode.

A Sewing Manual. By GRACE FOWLER and ADA ALEXANDER. New York: The Macmillan Company, 1930, pp. 189, $1.40

A manual for the use of high school classes in clothing selection and construction: by two public school teachers of Stockton, California. The sheets (7¼ x 9¼) have two holes punched on one side and are mounted in a pad from which they can be detached for use in a loose-leaf binder, and there are convenient arrangements for the student's notes and sketches of color combinations and sewing processes.

Homecraft Rugs. By LYDIA LE BARON WALKER. New York: Frederick A. Stokes Company, 1929, pp. 421, $5.00

A comprehensive, well-arranged, readable account of "their historic background, romance of stitchery, and method of making." There are sections devoted to the evolution of the craft; rugs constructed by braiding, weaving, knitting, and crocheting; rugs in which the surface is superimposed on another fabric, as in the hooked type; quilted, appliqué, and embroidered rugs; miscellaneous types; and care, repair, and sale. At the end are given detailed directions for making five typical rugs and a list of titles and authors of books and articles on the subject. The illustrations by Mary Evangeline Walker include charming color and line drawings and helpful diagrams, including excellent designs, some of them applicable to other handicrafts.

ABSTRACTS FROM PERIODICALS

CHILD DEVELOPMENT AND PARENTAL EDUCATION

EDUCATIONAL METHODS

Pioneer babies in the new education, HARRIET M. JOHNSON. *Am. Childhood* **15,** No. 6, 17–20, 62 (1930)

The nursery school is shown to provide superior health practices, wider social experiences and interests, training in self-help, and management of maladjustments in sufficient measure to warrant the large expenditure required.

Poetry for children, JEAN WHEELER. *Childhood Educ.* **6,** 210–217 (1930)

The fundamental appeal of poetry to children is shown to be largely emotional. For children under 7, rhythm is the most important factor, with simplicity and familiarity of subject next; from 7 to 12, there is a strong interest in words, in narrative and humorous poetry, and in the unfamiliar, such as fairies and enchantments but not in abstractions or metaphors; the high school age prefers the romantic and moral teachings, clearly and boldly expressed. Tests in which comparable poems, one good and one poor, were read to the children showed a decided preference for the good. Ways in which children may be taught to love poetry, and school methods certain to destroy such a taste are discussed.

Observations on the creative impulse in very young children, FLORENCE CANE. *Childhood Educ.* **6,** 248–252 (1930)

The author illustrates with case studies her belief that work with paint and pencil offers the young child an avenue for creative expression and an emotional outlet which, if properly used, may give an integration which unconsciously becomes a part of the whole life.

Leadership and intelligence, T. L. MCCUEN. *Educ.* **50,** 89–95 (1929)

In this study to determine the relationship between intelligence and leadership, the intelligence scores of 58 groups of college students and their leaders are tabulated and discussed. It is shown that the average of all the leaders' scores was 3 points above the average of all the scores, which leads to the conclusion that "the crowd seems to desire to be lead by the average person. Evidently in a democratic society the leader must not be too far detached from the group." This does not support the widespread belief that the most intelligent children of the school should be selected and trained in leadership positions.

The inconstancy of the IQ as measured by repeated group tests, PSYCHE CATTELL and F. J. GAUDET. *J. Educ. Research* **21,** 21–28 (1930)

A study of the records of a large number of children who, beginning at age 6, were given 2 or 3 intelligence tests yearly for 6 years shows marked inconsistencies in the IQ's recorded. An average distinct gain in IQ's as determined by the Dearborn tests after a year's interval is shown, with a smaller gain at the end of two years. This is probably due to practice since a new test gives an IQ which approximates the original. No gain was found when the Otis primary test was repeated after one year, but the presence or absence of a practice effect could not be determined.

L'enfant et le cinéma d'aujourd'hui [The child and the movies of today], EDGAR LEROY. *Rev. intern. Enfant* **8,** 704–713 (1929)

The danger inherent in the present

widespread attendance of children of all ages at moving picture shows is not sufficiently recognized. Programs are planned for adults and are too stimulating for normal children, and continued attendance of the latter at movies may bring on serious mental and nervous disorders. The solution lies in the cooperation of the state, the film-producers, and the family in providing and supporting films of real value and suitable length for children, in forbidding by law the attendance of children at adult films, and in educating the public in regard to these dangers and their remedy.

MENTAL HYGIENE AND BEHAVIOR PROBLEMS

Child mental hygiene—its history, methods, and problems, N. H. M. BURKE and E. MILLER. *Brit. J. Med. Psychol.* **9**, 218–242 (1929)

A detailed study which covers the history of the movements toward mental hygiene, the organization and conduct of a clinic, typical case histories, and conclusions drawn from these findings.

Food selection for children, LYDIA J. ROBERTS. *Child Health Bull.* **6**, 3–7 (1930)

Lest the publicity given Dr. Clara Davis's experiment on self-selection of diets by infants lead parents to feel that recent knowledge of child nutrition may be discarded and children allowed to eat what and when they please, it is pointed out that self-selection is warranted only among natural food stuffs to which no salt, sugar, or seasonings are added. The psychological aspects of feeding brought out by the experiment are emphasized: first, that some freedom of choice is desirable in a diet of suitable foods; and second, that with such a diet and a program of play, rest, and sleep no apparent attention should be given to what, how much, or how the food is eaten.

Child Study **7**, January, Section one (1930)

Teasing, which is tentatively defined as "to annoy with the intention of provoking embarrassment, ineffectual anger, fear or impotence in the teasee; and, through these reactions of his, to give satisfaction to the teaser," is helpfully discussed in the articles listed below:

Teasing, E. A. KIRKPATRICK, 97–99

A study in teasing, P. H. FURFEY, 99–101

Teasing as a school problem, F. M. THRASHER, 101–106, 118

When adults tease, B. D. LEWIN, 106–107

Shall we abolish teasing? BERTHA GOODKIND, 108–109

Some questions concerning masturbation, ANNA W. M. WOLF. *Child Study* **7**, 119–120 (1930)

It is felt that much of the present discussion of masturbation rests upon mere opinion and that before we advocate measures to regulate or stop the practice, the subject should be made a matter of clinical investigation to determine such points as wherein the harmfulness of the practice lies, whether feelings of guilt are inherent in the act, whether its early practice is detrimental to or a natural preparation for normal adult sex relation.

Personality fears in the young child, GARRY C. MYERS. *Childhood Educ.* **6**, 253–256 (1930)

Some of the environmental situations which, when badly handled, inhibit development of effective and likeable personality, are discussed here, including shyness, fear of ridicule, fear of asking questions, and pressure to hurry.

Looking after your child's mental health, S. McC. HAMILL. *Hygeia* **8**, 126–129 (1930)

A helpful discussion of the parents' responsibility and opportunity in shaping the child's attitudes and behavior, and of the need for parental education.

A study of probable causal factors of masturbation in a girl of six years, ALICE J. ROCKWELL. *Psychol. Clinic* **18**, 236–241 (1930)

Analysis of a case history in which normal, emotional outlets were blocked and phantasy and masturbation were substituted for desired attention and love.

PARENTAL EDUCATION

The training of leaders for adult study groups, JESSIE A. CHARTERS. *J. Adult Educ.* **2**, 16–21 (1930)

The old theory of training for leadership which called for professional training of all leaders and considered the amateur leader at best a makeshift and at worst a danger, to be used only until good leaders can be educated, is contrasted with the new theory which would select leaders for personality qualities, and train for the job and on the job. Thus, knowledge of the subject matter to be studied by the group is not essential for leadership, but an understanding of the interests and needs of the group, their problems, what and from where is available help in materials and experts, how to use information acquired, and finally the will to learn.

The Ohio plan of leadership training as recently drawn up is given to illustrate the modern attitude.

Origins of parental education, DOROTHY CANFIELD FISHER. *J. Adult Educ.* **2**, 22–26 (1930)

"Back of all this studying about children and teaching them there lies a racial instinct of self-preservation, an instinctive knowledge that they will perish if they are not taught. And to teach them, we ourselves must know."

Creative recreation for parents, ELSA D. VOORHEES. *Progressive Educ.* **6**, 336–339 (1930)

In an experiment in adult education, parents of Lincoln School pupils use the school plant one evening weekly for activities in physical recreation, arts, and crafts. The attempt to carry over into adult education the active, creative, emotionally satisfying methods that have proven satisfactory with children has been successful, not only in that the parents have had a good time while doing creditable work often in entirely new fields, but in that it has increased their understanding of the school and developed valuable bonds of mutual interest with their children.

H. R. H.

FOOD AND NUTRITION

Contributed by the staff of the Food and Nutrition Division, Bureau of Home Economics, United States Department of Agriculture

Studies on the antineuritic vitamin. III. Further evidence of the composite nature of B vitamin, J. L. ROSEDALE. *Indian J. Med. Research* **17,** 216–221 (1929)

The author reviews work already reported in which he attempted to separate the two factors of the vitamin B complex in an extract of rice polishings by precipitation with lead acetate with the result that either the filtrate or the precipitate thus obtained would prevent polyneuritis in pigeons but only the filtrate would cure this disease. The present study was undertaken to determine, if possible, the nature of the substance contained in the precipitate portion. Tests with rats, pigeons, and guinea pigs indicated that the substance was not vitamin C or the antipellagric factor. There was evidence that it might be connected with wet beri-beri and with general debility and stasis.—H. E. M.

Nutritive value of proteins in certain kinds of sausage and other meat food products, R. HOAGLAND and G. G. SNIDER. *J. Agr. Research* [U. S.], **39,** 531–537 (1929)

The authors report results of feeding experiments with rats in which the nutritive values of the proteins of sausage and other meat products are compared with those of beef chuck and fresh pork ham.—H. B. K.

The distribution of vitamin A in some corn-milling products, C. R. MEYER and R. A. HETLER. *J. Agr. Research* [U. S.], **39,** 767–780 (1929)

Results are given from experiments with rats using whole yellow corn and various corn-milling products as sources of vitamin A. It was found that vitamin A is concentrated in the endosperm and seems to be associated with yellow pigmentation.—H. B. K.

The mineral constituents of the jujube, M. P. BENOY. *J. Agr. Research* [U. S.] **39,** 949–951 (1929)

The jujube or Chinese date promises to become a satisfactory tree for southern cultivation and the composition of the fruit thus becomes a matter of interest. The author reports on the proximate composition of the fruit, the data being given on the air dry basis. Analyses for mineral constituents were made on samples of the sun dried fruit, and for purposes of comparison similar analyses were made on standard brands of dates and raisins. The jujube was found to compare favorably with the date and raisin as a source of phosphorus and calcium, but to be markedly inferior in iron content.—G. A.

The vitamin C content of fresh sauerkraut and sauerkraut juice, B. CLOW, A. L. MARLATT, W. H. PETERSON, and E. A. MARTIN. *J. Agr. Research* [U. S.], **39,** 963–971 (1929)

This is a report of the antiscorbutic value of fresh sauerkraut and sauerkraut juice. It was found that 10 grams of either protected guinea pigs from scurvy and allowed good growth. The growth curves are comparable to those of the guinea pigs which received 5 grams daily of raw stored cabbage.—H. B. K.

Rickets in rats. X. Fasting tetany and phosphate tetany, A. T. SHOHL and

H. B. BROWN. *J. Biol. Chem.* **84,** 501–509 (1929)

In a previous paper (*J. Biol. Chem.* **73,** 665, 1927) Karelitz and Shohl found that when rats which had been made rachitic by a diet high in calcium and low in phosphorus were offered a diet containing a normal amount of phosphorus, the blood serum calcium was lowered and the inorganic phosphorus raised, resulting in the healing of rickets and the production of tetany. Since Wilder (*J. Biol. Chem.* **81,** 65, 1929) found that fasting also produced healing in rachitic rats accompanied by convulsions, the present study was begun in an attempt to ascertain the possible analogy of the two conditions and the cause of tetany in each case.

By noting the responses to electrical stimuli, it was determined that tetany was produced by fasting rachitic rats and that it was "probably due to phosphate" from the body tissues. The analogous condition in Karelitz's and Shohl's rats was produced by phosphates from the food and could be produced even when the rats were gaining weight. —C. H. M.

The effect of the diet of the hen on the iron and copper content of the egg, C. A. ELVEHJEM, A. R. KEMMERER, and E. B. HART. *J. Biol. Chem.* **85,** 89–96 (1929)

Data obtained in this study indicate that practically all of the iron of the egg occurs in the yolk, whereas the copper is distributed fairly even through the albumin and the yolk. With the analytical methods used, the average iron content of the egg yolk was found to be 0.0143 per cent; and the copper content, 0.00076 per cent; the copper content of the egg white is given as 0.00056 per cent. The authors conclude that neither the quantity of iron in the egg yolk, nor the amount of copper in the egg yolk and white can be increased by feeding the hen daily 50 mg. of iron, or 50 mg. of iron plus 0.5 mg. of copper.—G. A.

The use of isolated radiations in experiments with the rat. I. The effect of infra-red radiation on the growth of the rachitic rat, E. M. L. CLAUSEN, *J. Nutrition* **2,** 125–153 (1929)

The study reported in this paper dealt with the effect of isolated radiations on the growth of rats suffering from various dietary deficiencies. It was found that 10 minutes daily exposure to near infra-red radiation from a carbon arc lamp stimulated growth in rachitic rats and prolonged their survival period on a rickets-producing diet. The effect of infra-red radiation on the rat differed from that of ultra-violet in that with the former the animal received no protection against rickets. The infra-red radiation given in conjunction with ultra-violet stimulated growth slightly in rats fed a rickets-producing diet.—H. B. K.

Do baking powder residues exert injurious effects upon growth and nutrition? W. C. ROSE and F. L. CATHERWOOD. *J. Nutrition* **2,** 155–169 (1929)

The authors sum up their work as follows: "Growth experiments extending through two generations of rats have been conducted to determine whether baking powders exert deleterious effects. The results indicate that in the proportions ordinarily employed in the preparation of bread, and with twice these amounts, three typical baking powders in which the leavening agents are calcium acid phosphate, a tartrate, and a mixture of calcium acid phosphate and anhydrous sodium aluminum sulfate respectively, exert no detectable toxic or injurious action. The animals receiving the powders grew as rapidly and re-

produced as satisfactorily as control rats upon a similar diet without baking powder. Analyses of the blood and histological examinations of the kidneys likewise failed to reveal evidence of injury."—H. B. K.

Nerve degeneration resulting from avitaminosis A, J. S. HUGHES, H. F. LIENHARDT, and C. E. AUBEL. *J. Nutrition* **2**, 183–186 (1929)

This is a report of the histological examination of the nerve tissues from 27 hogs which were fed rations deficient in vitamin A. Degeneration of some of the nerve bundles was observed in portions of the spinal cord, optic, sciatic, and femoral nerves. With pigs, chickens, and cows, deficiency of vitamin A in the diet resulted in marked nervous symptoms.—H. B. K.

The nutritive value of New Zealand Spinach, LAURA MCLAUGHLIN. *J. Nutrition* **2**, 197–202 (1929)

An analysis of raw and cooked New Zealand spinach is reported which shows that it has a high salt content. It compared favorably with most green vegetables in iron and calcium. It was also found to be exceedingly rich in vitamin A and a good source of vitamin B complex.—H. B. K.

The cause of the laxative action of bran, MARK FALCON-LESSES. *J. Nutrition* **2**, 295–310 (1930)

The present study was undertaken to determine which of the constituents of bran was responsible for its laxative action. Undigested carbohydrates such as crude fiber and pentosans; the ash of bran, amounting to about six per cent of the unwashed product; and a compound of phosphorus and carbohydrate known as phytin, were the constituents to which laxative action had been ascribed. The stool formation of rats upon a basal fiber-free diet was first determined, after which the animals were then fed diets containing respectively unwashed bran, phytin-free bran, bran fiber, bran ash, and phytin. The conclusions drawn are stated as follows: "The ash of bran and the phytin contained in bran are not laxative in the quantities in which they are contained in bran. Bran owes its laxative action to the crude fiber and pentosans which it contains."—G. A.

Botulism resulting from consumption of canned onions, S. A. KOSER and D. O. REITER. *J. Preventive Med.* **2**, 499–504 (1929)

The laboratory investigation here reported was undertaken after an outbreak of botulism in Chicago in January, 1929, involving two cases, one of them fatal, caused by imported Italian canned onions (shalots). Botulinum toxin in the blood stream and *Cl. botulinum* organisms in the intestine were demonstrated in the fatal case, and both toxin and organisms were found in the opened can of onions as well as in "swells" culled from market consignments of this product. Subsequently, all cans of the product encountered were removed from the trade by municipal and state officials. "The outbreak reported here is unusual in regard to the source of contamination of the food product and it is the first instance in which *Cl. botulinum* has been recorded as growing and forming toxin in canned onions.—G. A.

The brown versus white bread controversy, G. A. HARTWELL and V. H. MOTTRAM. *Lancet* 1929 II, 892–894.

The study reported in this paper was undertaken to show the respective values of brown and white breads when incorporated in a mixed diet based upon the analyses of the diet of agricultural

laborers. Rats were used as the test animals and the diet comprised meat, potatoes, vegetables, sugar, bread, cheese, margarine lard with bacon and eggs mixed. The ingredients were mixed together in proportions that tallied as nearly as possible with those found in the laborers' diet.

Twelve animals were used on each diet and were so chosen that each buck on white bread diet was matched against a litter brother of the same weight on brown bread and each doe with a litter sister. The test ran for 77 days. The results showed a slight advantage in growth of the rats on the brown bread diet over those on the white, although both lots were below normal in weight and showed a poor physical appearance. In general appearance the rats on the brown bread diet seemed to have suffered most, were decidedly more nervous and consistently became coprophagous.

The conclusion was drawn that the experiments give but little support to the propaganda for brown bread in the diet of the working classes.—H. E. M.

The effect of roughage upon growth, C. M. McCay. *Proc. Soc. Expt'l Biol. Med.* **27**, 209–211 (1929)

Growth curves are given of rats reared on high roughage diets. The diets of ten male rats were supposedly adequate in every respect and contained 10 and 20 per cent of cellulose as roughage. The diets of five male and five female rats were of high caloric value, with roughage furnished by 20 per cent of cellophane and of agar, respectively. When compared with growth curves of control animals on a satisfactory stock ration, it was concluded that growth of rats remains subnormal upon high roughage diets independent of whether the diet contains a moderate or a large amount of fat. The fact that both sexes showed identical growth rates would indicate that females were less affected than males. No evidence of physical injury by diets containing large amounts of roughage has been obtained.

A similar series of experiments with brook trout showed that, in spite of the short intestinal tract, trout can tolerate large amounts of roughage without any influence upon their rate of growth.—A. M. P.

A new method of evaluating the potency of antineuritic concentrates, M. Smith. *U. S. Pub. Health Rep'ts* **45**, 116–129 (1930)

The author sums up his work as follows: "A method is described for the estimation of the antineuritic potency in water-soluble concentrates. The method is based upon the uniform production of polyneuritis in rats on a diet in which the antineuritic thermolabile component of the vitamin B complex is the sole limiting factor and the determination of the minimum curative dose of a given concentrate, the dose being injected intravenously. The method claims specificity, rapidity, and a sufficient degree of accuracy to be a useful and reliable guide in the chemical purification of antineuritic concentrates with a view toward isolating the active principle."—A. M. P.

HOUSEHOLD EQUIPMENT AND MANAGEMENT

L'Organisation Ménagère [Organization of the household], G. SILVESTRE DE SACY. *Bull. soc. hyg. aliment.* **17,** 222–253 (1929)

The growing interest in scientific home management in France is indicated in this long article which outlines the principles of Taylorism and gives detailed description of practical, household procedures, largely of American origin.

Data on the ultra-violet solar radiation and the solarization of window materials, W. W. COBLENTZ and R. STAIR. *Bur. Standards J. Research* **3,** 629–689 (1929)

The maximum ultra-violet solar radiation transmitted through common window glass is 0.3 per cent of that available; with special glasses, the amount transmitted is markedly decreased by the variation of the angle of incidence of the solar rays from normal upon the solarium, by continued exposure to ultra-violet radiation, by thickness beyond 2.5 mm., and by dirt on the glass. Data showing the transmissive properties of many types of special glasses are given. Their therapeutic value depends upon satisfactory conditions for the transmission of a sufficient amount of sunlight or artificial light to produce the effect, not upon any quality in the glass itself. Whenever direct sunlight can be used it is superior to that transmitted through glass of any kind.

Tentative standard for flatiron cord. *Elec. World* **94,** 861–862 (1929)

The technical committee, heating appliance section, National Electrical Manufacturers' Association, recommends a minimum of 3,000 cycles on the underwriters' cord-testing machine for flatiron cord, while 1,000 cycles is standard for appliance cord; the cord to be identified by underwriters' label every five feet.

Elektrische Fussgesimsheizung [Electrical heating of baseboards]. *Elektricitätsverwertung* **3,** 336–337 (1929)

A new method for heating rooms is described, which consists of the installation of electrical elements along the walls enclosed by metal baseboards. Since the temperature does not exceed 212 degrees F., there is no odor from burnt dust. Advantages claimed for this method are: heating of the air close to the floor, even distribution of heat, saving of space, and adaptability.

Steel frames for houses, T. J. FOSTER. *Eng. News-Record* **104,** 96–100, 141–144, 193–195 (1930)

In this series of three articles the author develops his belief that the steel frame house can be adapted to quantity production with great success. He proposes a nation-wide corporation which would enlist the engineer, architect, and merchandiser; carry on research and experimental work in construction methods, materials, and designs, without exploiting any one material; employ unit fabrication in the shop and mass production, and cooperate with local builders and developers. He feels this method would insure to the home owner well-built, beautiful, individual homes for less money than is now spent on inferior ones.

Progress in fuel utilization in 1929. *Gas Age-Record* **64,** 865–866, 869–870, 875 (1929)

A summary of the changes in production and utilization of bituminous and anthracite coal, coke, petroleum, natural and manufactured gas; and of the de-

velopments in low temperature carbonization, boiler furnaces, stokers, pulverized fuel, fuel oil, Diesel engines, industrial fuel, economy, and domestic heating; and of research now underway.

Das program der Deutschen Bauausstellung Berlin [The program for the German building exhibition in Berlin]. *Haustechnische Rundschau* **34,** 343–345 (1929)

The city of Berlin and the German building trade associations are jointly planning a permanent exhibition in Berlin which is to be officially opened in 1931. Among special annual exhibits already announced are for 1931, "New Building and New Living"; for 1932, "The New Business Building"; for 1933, "Agriculture and Housing"; for 1934, "The New Household"; and for 1935, "Heat-Light-Color-Sound."

Elektrische Heizung von Baderäumen [Electrical heating of bathrooms], W. SCHULZ. *Haustechnische Rundschau* **34,** 356–358 (1929)

Electrical heating of bathrooms is recommended during spring and fall when the central heating plant is not in use. The most suitable type of heaters are those giving radiant heat. The danger of short circuits as from water and wet towels is prevented by placing the heaters out of reach at a height of about 8 feet from the floor. To maintain the brilliance of the reflector, the latter should be coated with chromium, instead of the usual nickel. About three heaters are needed for a bath room of average size, one of them to be placed above the window.

A test of five ice-cooled household refrigerators, MILDRED B. PORTER. *Ice Refrigeration* **78,** 49–50 (1930)

The set-up of this comparative study made to determine the thermal performances and the reliability of the test method used, is given in detail together with a tabulation of the data obtained. Average refrigerator temperatures and ice-melting rates are computed for room temperatures of 75°F. and 80°F. Striking differences were found between two boxes, one of which with paper board and air space insulation had an ice-melting rate of 33 pounds per day and an inner temperature range of 60°F. to 47°F.; the other, with two inches of corkboard insulation, a rate of 22.7 pounds and temperature range of 49°+F. to 41°F. The saving in ice would probably compensate for the higher cost of the second box, which gave a better temperature range at a room temperature of 90°F. than the cheaper box at 75°F. The test method used is shown to be satisfactory.

What we ought to know about refrigerators, M. E. PENNINGTON. *Ice Refrigeration* **78,** 54–60 (1930)

A résumé is given of the changes in knowledge, attitudes, and practices with regard to household refrigeration during the past few years, and of the further information needed to conserve the interests of all concerned. Changes in refrigerator construction resulting from research and cooperation between the ice industry and refrigerator manufacturers now enable the consumer to buy temperature, space, and durability in refrigerators more effectively than heretofore. Weather maps which show the yearly temperature range throughout the United States are given to indicate the peak loads to be met by household refrigerators. These, with a table of average temperatures in the different compartments of A, B, and C graded refrigerators at temperatures from 75° to 90°F., give the purchaser accurate

buying guidance. Best current practices with regard to framing, insulation, linings, backs, steel sheathing, interior design, baffles, and bases are discussed and illustrated with photographs.

The electric range for the home, HARRIET C. BRIGHAM. *Iowa State Coll. Bull.* 102, May, pp. 42 (1929)

Written to meet the questions of housewives, this bulletin gives valuable information concerning the selection, installation, operation, and care of electric ranges. An appendix defines electrical terms, rate schedules, and consumption costs, together with the tabulated data from Iowa electric cooking surveys.

Une Leçon d'Organisation [A lesson in organization], MME. LASALLE. *Mon Chez Moi* **7**, 276–278 (1929)

A detailed account of a systematic study of sweeping of floors, accompanied by tables and diagrams showing correct and wrong postures.

L'Electricité à la Cuisine [Electricity in the kitchen], E. MAREC. *Mon Chez Moi* **7**, 279–281 (1929)

Tests by engineers of electrical power plants in Paris led to the conclusion that when cooking vessels of respectively 18 and 16 centimeter diameter were used, the best heating effect was obtained with hot plates of 20 and 18 centimeter diameter; a possible explanation being that with such equipment, a cylinder of hot air surrounds the cooking vessel and prevents loss of heat from its surface.

Les Femmes et l'Electricité; le Congrès de Newcastle [Women and electricity; the Newcastle Congress]. *Mon Chez Moi* **7**, 306 (1929)

At the convention it was reported that the Office of Education in Great Britain plans to organize practical courses in the use of electricity in all girls' schools.

Temperature and ice consumption in an ice-cooled refrigerator as affected by room temperature, MILDRED B. PORTER. *Refrigerating Eng.* **18**, 93–96 (1929)

Report of a series of tests which shows that "within the range from 65°F. to 90°F. the formulas may be used for computing results at any room temperature within 10°F. or 15°F. of the given temperature, when errors of 0.5°F. and of 4.5 per cent of the ice meltage are permissible. Of course, the shorter the range used, the smaller the errors introduced by this computation."

Moisture in modern refrigerators. *Refrigerating Eng.* **18**, 136 (1929)

A recent bulletin of the National Electric Light Association reports tests of three ice refrigerators built with different cabinet styles, varnish, and paints; with and without insulation on back and bottom; and operated under temperature and humidity simulating the most trying summer conditions. The varnished boxes absorbed much moisture, became warped, and bulged, with marked loss in efficiency. The special paint finish gave better protection with no loss in efficiency. It is recommended that a reduction be made in door and frame clearance and in air leakage around the drain pipe; that two coats of aluminum paint be used to prevent moisture absorption, and that special treatment be given to wood used for doors and frame.

Advances and proper practices in insulation with particular reference to small units of refrigeration, H. B. LINDSAY. *Refrigerating Eng.* **19**, 9–11, 16 (1930)

Greater attention should be directed to the kind of insulants used since through them from 75 to 85 per cent of refrigeration loss takes place and differences of 60 per cent in efficiency are

shown between those in common use. Conductance, not thickness, is the proper gauge. Recent research indicates that the insulating value of porosity depends upon the character of the minute walls of the material; that when these are smooth, hard, and resilient, heat flow is retarded; that surface rigidity is increased by cold; that a film of oxidation or corrosion on a metal surface decreases its value as an insulant, as does also the presence of moisture vapor within the unit.

Studies of various refrigerator icing methods, C. F. BELSHAW. *Refrigerating Eng.* **19,** 12–15 (1930)

The laboratory record of ice meltage and a tabulation of the data obtained in a study of four methods of icing a typical, domestic refrigerator under uniform temperature conditions, using first 100-lb. piece; second, two long 50-lb. pieces; third, two square 50-lb. pieces; and fourth, four 25-lb. pieces, shows lower temperatures with but slight increase in the rate of ice melting with the second and fourth methods, the rank being fourth, second, first, third. Studies to improve methods of refrigerator icing are indicated.

Gewinnung von Schälmessermusterformen [Determination of model forms of peeling knives]. *RKW Nachrichten* **3,** 291 (1929)

Research on peeling of potatoes is now going on at Versuchsanstalt für Landarbeitslehre in Pommritz/Sa. (Pommritz Agricultural Experiment Station). Shape of handle and blade of knife is considered, together with physiological tests of working procedure. Potatoes of different varieties and age are used.

Hauswirtschaft Mitteilungsblatt [Home management bulletin]. *RKW Nachrichten* **3,** 291 (1929)

The German National Board for Scientific Management is responsible for the above-mentioned publication, which appears at intervals and is devoted to questions of standardization in the household, particularly methods of research which may serve as a guide and stimulus to further work by other agencies. [Address: Geschäftsstelle des Reichskuratorium für Wirtschaftlichkeit, Berlin NW 6, Luisenstrasse 58/59.]

Waschversuche [Washing tests]. *RKW Nachrichten* **3,** 291 (1929)

Methods for investigating laundering processes (hand as well as machine) are briefly described. It is expected that reports of tests now being performed under the auspices of the German National Board for Scientific Management will be published in 6 or 8 months.

Rationalisierung als Bewegung [Standardization as a movement]. *RKW Nachrichten* **3,** 294–299 (1929)

A reference book is announced, dealing with the German standardization or rationalization movement, and emphasizing the new attitude towards technical and economic problems. The three main divisions are: the standardization movement, the methods of standardization, application and results. Household-work is included in the survey.

Abstracts on recent research in cookery and allied subjects. I. Refrigeration, VICTORIA CARLSSON and MAY B. VAN ARSDALE. *Teachers Coll. Record* **31,** 320–331 (1930)

An interesting abstract on research in refrigeration under these headings: history, theory, ice and mechanical re-

frigeration, what constitutes a good refrigerator, methods of testing household refrigerators, and food in the household refrigerator. A bibliography of 28 titles is given.

Stainless steel. *Times* [London] *Educ. Sup.*, Jan. 11, 4, (1930)

The new nickel chromium steels of austenitic variety, less corrosive than any steel yet marketed, have, besides their uses in industry, a wide field in household equipment from gas range plates to cutlery, stew pans, entrée dishes, and cake plates. Since its tensile strength per unit of weight is twice that of cast iron, its use will probably result in less bulky designs for many articles now made of cast iron.

The present use of work time of farm homemakers, INEZ F. ARNQUIST and E. H. ROBERTS. *Wash. State Coll. Agr. Exp't Sta. Bull.* No. 234, pp. 31 (1929)

These studies of the use of time for home making by farm, rural, and town women show little variation in the average time, 53 hours per week spent in homemaking activities. The longer working week of farm women, 63 hours, results from the additional farm work such as gardening, poultry raising, etc., in which 98 per cent of the farm women averaged one-sixth of their time. The type of farm, the season, and the amount of help were found to affect the amount of farm work done by the woman but not the time spent in homemaking. The latter is affected very little by the use of labor-saving equipment, which, however, probably enables the homemaker to slow down her speed and to raise her standards of practice.

Wir bekommen Meisterkurse der Hauswirtschaft in Berlin [We are getting "master" courses in household work in Berlin], A. HEINICKE. *Wir Hausfrauen in Gross-Berlin* **5**, 165–166 (1929)

For five years an apprentice system for domestic workers in Berlin has been in operation which has prepared 300 young girls for examinations leading to certification as "household assistants." "Master" housewives are also to be trained by means of courses now being organized; these will last 15 months, and the prerequisites are: a minimum age of 25 years, a good general education, and at least 5 years experience in the administration of one's own household.

H. R. H. AND M. C. H.

MISCELLANY

Nursery School Film. The work of the Nursery School Section of the Washington Child Research Center has been filmed. There are about fourteen hundred feet (three large reels) of moving picture film of 16 mm. size which will project to 45 x 60 inches. The film shows the physical facilities of a child study center, the types of apparatus and their use, the routine of the preschool children, the technics of teaching, the regime for a full day, the type of physical and psychological studies, and some typical research studies.

Copies of the film may be bought for $90 or rented on the basis of $10 for each thirty-six hours. Address Miss Maurine Mulliner, Washington Child Research Center, 1825 Columbia Road, Washington, D. C.

Health Racketeers. This is the term used by W. W. Bauer in articles in Hygeia for December and January to describe the quacks and other dealers in pseudo-curative products who exploit the credulity of the public and its interests in health by misleading statements regarding the efficiency of their products.

"Health" on Food Labels. Dr. Paul B. Dunbar, assistant chief of the Food and Drug Administration in the United States Department of Agriculture, has spoken strongly against the use of labels for food materials which claim special "health-giving" properties for the product. At a joint session of the National Canners' Association and the National Wholesale Grocers' Association in Chicago last January he advised basing the selling appeal on good character, quality, and honest food value, and eliminating from the label "anything that smacks of health claims."

Government Publications on Textiles and Clothing. A second revision has been issued of the mimeographed bibliography of "Selected List of Government Publications on Textiles and Clothing" compiled by Ruth Van Deman and first published in 1925. Each revision has shown an increase in the number of subjects in textiles and clothing on which government departments are conducting research. Free copies are available to teachers and laboratory workers on application to the Bureau of Home Economics, United States Department of Agriculture, Washington, D. C.

Color in Children's Wraps. Bright color in children's outer clothing is recommended by the United States Bureau of Home Economics, not only because it pleases the youngsters, but also because it makes them more visible and thus gives protection in traffic. The American Automobile Association recently put the idea into practice by furnishing 2,000 yellow rubber rain capes and hats to schoolboy traffic aids in Washington, D. C., and is encouraging the idea in other cities. The argument for visibility also holds in the case of bright bathing suits.

Rural Adult Education. "A Preliminary Inquiry into Rural Adult Education" by John D. Willard has been published as a bulletin of the American Association for Adult Education. It surveys the various agencies which offer education to adults in rural regions and discusses such special topics as radio, leader training, drama, music, and the relation of the church, the community and the teacher-training institutions to rural adult education.

NEWS NOTES

GENERAL

Home Economics at the National Education Association. In connection with the National Education Association meeting at Columbus, Ohio, June 28 to July 4, there is to be a home economics meeting of teachers and supervisors, arrangements for which are in charge of Charlotta C. Greer, John Hay High School, Cleveland. Tentative plans for the program have been made. The general themes to be discussed are: "Home Economics Educates for Parenthood," "Teaching Devices for the Home Economics Classroom," and "Required Courses in Home Economics." This conference will immediately follow the annual meeting of the American Home Economics Association at Denver, making it possible for those going east from Denver to attend the Columbus meeting.

May Day—Child Health Day. The American Child Health Association, 370 Seventh Avenue, New York City, has prepared for distribution suggestions for the use of May Day chairmen in the states, one section of which refers particularly to clubs and national organizations. Included also is a list of state chairmen.

4-H Club Camp. The Fourth National 4-H Club Camp will be held from June 18 to June 24, inclusive, on the grounds of the United States Department of Agriculture, at Washington, D. C. As heretofore, two boys and two girls will represent each State.

International Congress on Mental Hygiene. The Willard Hotel, Washington, D. C., will be headquarters for the Congress which is to meet May 5 to 10, 1930. The president of the Congress is Dr. William A. White; secretary, Clifford W. Beers; chairman of the program committee, Dr. Frankwood E. Williams; and of the committee on organization, Dr. Arthur H. Ruggles. The administrative secretary, from whom further information may be obtained, is John R. Shillady, 370 Seventh Avenue, New York City.

National Conference of Social Work. Methods of combating unemployment, the responsibility of community funds for relief-giving, economic old age and old age assistance, the care of chronic disease, and race improvement are topics which will occupy a prominent place at the 57th annual meeting of the Conference, to be held in Boston, June 6 to 14. For further information, address Howard R. Knight, general secretary, 277 East Long Street, Columbus, Ohio.

Pan-American Child Health Congress. The 6th Pan-American Child Health Congress will be held in Lima, Peru, July 4 to 11, 1930. Full information may be obtained from the Secretario General, VI Congreso Pan-Americaña del Niño, Apartado 987, Lima, Peru.

American Country Life Conference. The time and place of the next meeting have been set as Madison, Wisconsin, October 20 to 22, 1930, and "Standards of Living" has been adopted as the central theme.

New York University. At the dedication of the new building of the School of Education on February 28, Mrs. David

O. Mears formally opened the Home Economics and Homemaking Center. Miss Anna Barrows, Dr. Anna Garlin Spencer, Dr. Henrietta Calvin, and Miss Marion S. Van Liew were also on the program. A national education conference was held on March 1, one of the sections of which was devoted to home economics, with Miss Baylor and Miss Whitcomb as presiding officers and Dr. Helen T. Woolley, Mr. Robert E. Simon, and Miss Katharine Fisher as speakers.

The National Education Association and the Law Observance Commission. On February 17, Secretary Crabtree issued a press statement to the effect that the National Education Association had arranged to cooperate with President Hoover's Commission on Law Observance and Enforcement, by assembling data for a comparison of behavior conditions in the high schools of the country in 1920 and 1930; and that, while the full report would not be completed for some time, enough information had already been assembled to show that conditions are much better now than ten years ago, with respect both to drinking and to general behavior.

Food Consultant. Dr. Edith Hawley, formerly on the staff of the United States Bureau of Home Economics, has opened an office as food consultant in New York City, where she will give service in nutrition, food economics, and management to schools confronted with the problem of serving adequate food to growing children.

NEBRASKA

Nebraska Home Economics Association. The sixteenth annual meeting will be held in Lincoln on April 4 and 5. The college teachers and the institution managers will meet in separate sections.

University of Nebraska. This semester the home economics department has launched a 2-credit lecture course for men, conducted by various members of the home economics staff and including the subjects of housing, home furniture, food selection, budgeting the income, management problems, and child development.

Provision has been made to have a number of the members of the home economics staff visit one or more high schools during the second semester.

Grace Morton and Gladys Winegar attended the conference on clothing and textiles research held at the Kansas State Agricultural College in February.

Mrs. Mary Borreson Nelson is taking the place of Theresa Judge of the extension division, who is on leave of absence for a few months.

Mrs. Jessamine Williams, head of the foods and nutrition division at Oregon Agricultural College, visited the department in February. Miss Fedde entertained the members of her staff at the new University Club in Mrs. Williams's honor.

Lucille Refshauge, '28, who has just completed her dietitian interneship at the Mayo Clinic, Rochester, Minnesota, was a recent campus visitor. She was on her way to Washington, D. C., to begin her duties as assistant dietitian at Gallinger Hospital.

NEW YORK

Farm and Home Week. Among the speakers whose names appeared on the program for the Homemakers Farm and Home Week held from February 10 to 15 at the New York State College of Home Economics, Cornell University, were those of Governor Roosevelt, Ruth Atwater, Caroline Hedger, Mrs. Anna Steese Richardson, Mrs. Anna Garlin Spencer, and Flora M. Thurston.

NORTH CAROLINA

North Carolina Home Economics Association. The Association held its

annual meeting at the North Carolina College for Women at Greensboro on February 21 and 22, at which time the advisory committee for student clubs conducted a student rally. There was a special program for students, and an opportunity was provided for them to exchange ideas and discuss their club problems.

North Carolina College for Women. Three new members have been added to the home economics faculty: Julia Jacoby, in charge of the new nursery school; Mrs. Flora Edwards, in the art department; and Miss Davis.

A new course offering a major in institutional management is open to juniors this year. It is given by Myra Butler, who is also in charge of the home economics cafeteria.

Graduate work was offered during the summer of 1929 in advanced methods, child psychology, art construction, and economic and social problems of the family. Members of the staff included Blanche Shaffer and Mrs. Chase Going Woodhouse of the college faculty, Mary Mumford of Vassar College, and Bess Steele of the University of Nebraska.

The Home Economics Club has been holding its bi-monthly meetings on Tuesday evenings in the Home Economics Building. The program is posted two weeks in advance of each meeting. Topics have included the Boston meeting of the American Home Economics Association; the lives of some of the early leaders in the home economics field; schools that train women for vocations other than the teaching of home economics; travels in Europe; and a Christmas play.

Martha Creighton is spending her year's leave of absence from the extension service in study at Columbia University.

North Carolina Education Association. The home economics section of the North Carolina Education Association held a departmental meeting at each of the six district meetings last fall. Attendance at all of the meetings was very good, and the programs were interesting and stimulating.

NORTH DAKOTA

North Dakota Home Economics Association. The annual meeting was held in Minot on November 7 and 8, at the time of the North Dakota Education Association meeting. Out-of-state speakers were Eloise Davison of the National Electric Light Association and Mabel Sensor, home editor of *The Dakota Farmer*. Officers elected were: president, Pauline Reynolds, State College, Fargo; vice-president, Zita Friedl; secretary, Marie Webster, Carrington; and treasurer, Esther Latzke. Robin Wylder of Cooperstown has been appointed state club sponsor; Eleanor Bryson, Minot State Teachers' College, state news gatherer; and Faye Fiske, Maddock, custodian of the home economics play exchange.

North Dakota State College. Lucile Horton, formerly of the teacher-training department at the University of Tennessee, is now in charge of teacher training at the College. She succeeds Frances Bailey, resigned.

Frances Jones is in charge of the nursery school, which opened in September with sixteen children enrolled.

Bess Rowe of *The Farmer's Wife* was a guest of the college during Homemakers' Week, January 14 to 17. She had charge of the recognition banquet and program in honor of the 5 master farm homemakers of North Dakota. There are now 14 women who have received this recognition in the state.

Extension Service. Pauline Reynolds, assistant state boys' and girls' club leader, and Marguerite Jongeward,

assistant county agent in Adams County, attended the International Stock Show in Chicago in November.

Stella House has been appointed assistant county agent in Ramsey County with headquarters at Devils Lake. She will assume her new duties on July 1. Up to that time, she will have headquarters at the state office and carry on projects in several other counties.

Vocational Home Economics. Additional George-Reed funds for North Dakota have made possible a new venture in home economics education for the state. In Fargo on October 15, adult classes for homemakers and business women were organized by Ella Johnson, itinerant adult teacher of homemaking, for an eight weeks' unit. Fourteen classes were held there, with an enrollment of 392 women and a total attendance of 1,446. Similar eight-week units have been conducted in Minot, Velva, and Grand Forks; it is believed that about one thousand women have been reached through these evening classes.

Two vocational day schools are planning to employ their home economics teacher for longer than nine months this year, thus strengthening the home project work in those communities.

A new teacher-training center has been added in the vocational high school at Casselton, 20 miles from the North Dakota State College. Student teachers from the college go there for two-weeks' training. Maybelle Game is the critic teacher in charge.

OHIO

Ohio Home Economics Association Over three hundred members attended the annual meeting in Cleveland on January 25. At a symposium on buying, planned by Elsie Maxwell of the University of Akron, F. C. Schlink of the American Standards Association led the discussion of problems confronting the woman buyer.

Defiance College. During the first semester M. Louise Meuser, head of the home economics department, took her classes on field trips to several commercial establishments, including gas and power plants, a food market, a department store, a tea room, a biscuit factory, a hospital, and a theater. At the last the decorations, lighting, and ventilating system were the points of special interest.

Kent State College. The home economics department is pleased with its new practice house opened at the beginning of the winter term. Five major students and a faculty representative are in charge.

The home economics club uses the practice house for its social and business meetings. Miss Huston and Miss Nixon were guests at the January social meeting. The latter told of her travel-study in Europe last summer. In February the club sponsored a style show given at a regular college assembly period. The club is seizing every opportunity to raise funds to send one or more delegates to the Denver meeting of the American Home Economics Association. A senior majoring in home economics represented the club at the meeting of the Ohio Home Economics Association in Cleveland.

Ohio State University, Columbus. Outside speakers on the home and community program for the Annual Farmers' Week held at the University from February 3 to 8, included W. W. Chenoweth, Elizabeth Lee Vincent, Mrs. Harris T. Baldwin, Marion Tucker, and Florence Allen.

Mrs. Eva May Riddle is assisting in the foods and nutrition division.

Margaret Walker, chairman of the child development division, was married

on December 26, 1929, to Robert Spiers. She is continuing work at the University and spending some time in graduate study.

Clara Bancroft of the teacher-training division has been granted a leave of absence for the winter quarter for study at the University.

Extension Service. The home economics extension service cooperated with the Lima Federation of Women's Clubs in conducting a school of nutrition for women of the city and Allen County. Anne Biebricher, Lelia Ogle, Grace S. Wagner, and Lucille Eby conducted discussions and demonstrations.

Bernice Bailey, home demonstration agent in Lucas County, was married on December 28 to Ward H. Henderson of Toledo. She is continuing her work in Lucas County for the present.

Mrs. Grace Swallow Wagner, Red Cross nutritionist for the past five years, has joined the list of home demonstration agents.

Edith Berry has been appointed home demonstration agent in Fairfield County. She has been acting home demonstration agent since June.

Ohio University, Athens. Ida Mae Patterson has been granted leave of absence for the second semester and is studying at the University of Chicago. She expects to return to the University for the summer term.

Dr. Florence Justin has been on the faculty during the second semester to complete the plans for the organization of a nursery school. The school is to be located in the house now being made over for a practice home, the remodelling and furnishing of which have provided practical problems for the interior decoration and home administration classes conducted by Anna Fitzgibbon.

University of Cincinnati. Home economics students have had the opportunity to give weekly radio talks over Station WCKY. This has brought up the problem of presenting such material in non-technical language and the vocational possibilities in this field. Students from the departments of food and nutrition, consumer buying, and child care have presented a variety of topics.

The problem of the noon lunch for children is being studied by two nutrition students, one working with the day nurseries in the city, and the other, with the county schools in cooperation with public health nurses. After a survey of conditions, suggestions are made for menus marketing, organization of time and labor, and food preparation and service.

The annual meeting of the Mothers' Training Center Association, affiliated with the school of household administration, held its annual meeting at the University on January 22. Dr. Arlitt reported on the fourth year's development. Sixty-five child-study groups have been organized with an enrollment of approximately three thousand women.

Dr. Arlitt, state chairman of parental education, addressed the Texas Parent-Teachers Association at the opening of the parental education work in Texas.

Miss Maclay, in cooperation with the Mothers' Pension Department, has again organized a project for correlating home economics and social case work. Requests received from 38 colleges and social agencies for the description of this work are indicative of the general interest in the project. Miss Maclay is also supervising students who are getting practical experience in the tea room of one of Cincinnati's retail stores.

Rosamond C. Cook gave four addresses during Farmers' Week at Purdue University.

The Household Administration Club has held unusually interesting and successful meetings this year. Students

majoring in each of the departments have been responsible for the programs.

In a recent survey made of college activities, it was found that the school of household administration has contacts with 67 local institutions and organizations and 37 national and state ones. These contacts provide opportunity to observe actual conditions in the various vocations.

Western Reserve University. Ethel M. Thompson, who has completed her work for the master's degree, has returned to the college for women. Dorothy M. Proud, who has been substituting for Miss Thompson, has returned to the Mayo Clinic to continue research work under the direction of Dr. Clifford J. Barborka.

The undergraduate Household Administration Club entertained at tea in November for a group of seniors from the Cleveland and suburban high schools. During the final week of practice for the annual Stunt Night in December, they served dinners at Haydn Hall.

Dr. Richard Bolt, director of the Child Health Association of Cleveland, spoke to the home economics students on January 7. The class in advanced dietetics was addressed recently by Dr. Norman Wetzel, Dr. Victor Myers, Dr. Howard Beard, and Dr. Henry John.

Akron. Ethel Austin Martin of the Chicago Branch of the National Dairy Council was the speaker at a dinner meeting of the home economics teachers of the Akron public schools and of the University of Akron held at the Y. W. C. A. on December 16, 1929. At this meeting a local home economics association was organized which will affiliate with the state and national associations. Officers chosen were: president, Myrtle Caves, East High School; vice-president, Irene Abendshine; secretary, Kathryn Beitz, David Hilt School; and treasurer, Margaret Conley. Friends interested in home economics were invited by the teachers to the meeting, and an invitation was extended to them to affiliate with the Association. The next meeting of the group was at dinner at the Business and Professional Women's Club on February 1.

The home economics department of the University of Akron is cooperating with the Summit County Federation of Women's Clubs in the planning of home economics programs. Elsie M. Maxwell is the chairman of the joint committee. Lelia LaMounte of the Scottish and Irish Linen Guild of New York lectured to the group in January on household linens.

Florence Busse Smith spoke on "Present Trends in Home Economics" at the meeting of the homemaking section at the Women's City Club on January 15.

The junior high school teachers of Akron are attempting to correlate homemaking with the Girl Scout work of the city in order to give stimulus to both.

Two new teachers have been added to the home economics department in the Akron public schools: Katherine Lee Hoover and Gertrude Poppke. Miss Hoover is in charge of the home economics department of the Barber School, a new grade school opened on February 1. The department's quarters include a combination unit kitchen and a clothing and textiles room.

The Home Economics Club of East High School held a style show on January 21. The dress buyer from one of the local department stores was in charge, and members of the Club served as models.

Girard. The Liberty Home Economics Club is working on the problem of its underweight and overweight members. The girls are weighed once a month and measured twice during the year, and diets are worked out for each

individual. All of the 100 girls in the foods department are members of the club.

State Division of Vocational Education. On January 24, a conference was called by the state supervisor of home economics to discuss problems pertaining to the improved training of teachers. The particular problem under discussion was the amount of chemistry to be required in the college home economics curriculum for the girl who is preparing to teach. It was decided to make a definite study of home economics and science courses to determine which sciences should be a part of the home economics course. Heads of college home economics departments and those in charge of teacher training were present, and practically all of the approved teacher-training colleges were represented. The members of the group requested continued meetings.

OKLAHOMA

Oklahoma Home Economics Association. The annual meeting was held February 3 and 4 in conjunction with that of the Oklahoma Education Association. The program included a dinner for members and meetings of all committees. Dr. Agnes Tilson, Merrill-Palmer School, Dr. Marietta Eichelberger, assistant national director, Red Cross Nutrition Service, were out-of-state speakers. Activities for Better Homes Week were emphasized. Furthering curriculum revision and cooperation with the State Bureau of Child Development and Parental Education were added to the program of work.

Xi and Psi Chapters of Omicron Nu from the Agricultural and Mechanical College and the University of Oklahoma were joint hostesses to the Association at tea in the model bungalow of the Oklahoma Gas and Electric Company.

Oklahoma Agricultural and Mechanical College. Extension Service. Organization was the general theme of the annual Extension Conference, held from December 15 to 20. Miriam Birdseye of the United States Department of Agriculture and Mrs. Charles W. Sewel, American Farm Bureau Federation, were among the chief speakers.

Recently appointed county home demonstration agents are Ethel Mae Donaldson in Washita County and Charlcie Amos in McClain County.

Norma M. Brumbaugh, state home demonstration agent, attended the Southern Regional Conference of Extension Workers at Jackson, Mississippi, on February 3 and 4.

During January Zella Blake, clothing specialist, gave demonstrations of color, texture, line, and design in relation to the different types and personalities represented by the women at the local meetings. Demonstrations of garment construction and of finishes appropriate for different materials proved popular.

Kitchen improvement was selected by the Farm Women's Clubs of Greer County as one of the major projects for 1930. Ten kitchens were entered in a county contest. A kodak picture of each kitchen was taken; the room was scored; and suggestions and plans for improvement were discussed with the women, who showed keen interest in arrangement choice of color, installation of water, height of working surfaces—in fact, anything that can be done to transform the kitchen into a cheerful, clean-looking room and save time and motions. At the end of the contest in August the kitchens will be scored again by the committee; awards will be made; and a kitchen tour arranged. The

contest is in charge of Madonna Fitzgerald, extension economist in home management.

Oklahoma College for Women. Senior students majoring in food and nutrition have undertaken a project in animal nutrition, one purpose of which is to give the students enough experience in the handling and management of experimental animals to enable them to carry on simple animal nutrition demonstrations for nutrition teaching in high schools, and also a clearer understanding of nutrition research. The department of psychology will cooperate in an attempt to show some effects of malnutrition on the learning ability of white rats.

A new course in social customs proved so popular during the first semester that it is being repeated this semester as a one-hour, elective course open to juniors and seniors from all departments in the college. The course is composed of three units: good form and usage for various occasions; appropriate dress; and the origin and development of table etiquette. Opportunity to observe and practice good manners is afforded through entertaining and meal service. At a buffet luncheon and three types of dinners served by the class in quantity cookery, members of the class in social customs acted as guests and hostesses.

Ground is being broken for a new home management house. It is to be a two-story structure of light brick to harmonize with other campus buildings and will provide accommodations for six girls and an instructor. There will be space for a sunny nursery for the baby who, it is hoped, will be a member of the home management family.

The college recently purchased a small brown cottage, and the class in home management has been asked to plan and supervise its remodeling, redecorating, and furnishing. The students will estimate and plan the distribution of the costs, supervise the work, plan the landscaping, select the furnishings, and redecorate some of the furniture to be used in the house. When the house is completed, members of the class will occupy it for a time as part of their work in home management.

Dr. Callie Mae Coons of the household science department attended the meeting of the Association of Southern Agricultural Workers at Jackson, Mississippi. She spoke before the home economics section on February 7 on "Diet in Pregnancy."

Beulah Shockey, associate professor in household arts, attended the Conference for Textile Research Workers at Manhattan, Kansas, February 5, 6, and 7.

The household arts department is offering a new course in pageantry costuming which is for students majoring in physical education, dramatic arts, and household arts. The course has aroused much interest among both women and men students.

The home economics courses for men have become so popular that it was necessary to limit the enrollment this semester. The advanced course in food preparation and selection is being offered again this semester.

Gladys Wyckoff, formerly of the University of Nevada, is now a member of the home economics education department.

Much interest is being shown in the Home Economics Club this year. The Club is making a Batik hanging for use over the fireplace in the living room of the Home Economics Building in which the design suggests various phases of home economics.

University of Oklahoma. Helen B. Burton and Nell R. Evans of the school of home economics are giving a series of radio talks on child development.

A state conference on child development

and parental education was conducted December 9 and 10 by Anna E. Richardson, assisted by Flora M. Thurston, National Council for Parent Education, and Edith M. Thomas, Federal Board for Vocational Education.

One of the advanced classes in food preparation, under the direction of Laura A. Miller, entertained the home economics seniors and faculty at a tea.

State Department of Education. A conference of parent-education teachers was held February 6, in which Dr. Agnes Tilson, Merrill-Palmer School, took part.

A second state-wide school for parents was held in Oklahoma City, February 3, 4, and 5. This school was sponsored by the city schools and University of Oklahoma in cooperation with the Bureau of Child Development and Parent Education. Dr. Gary C. Myers, Dr. Marietta Eichelberger, and Dr. Agnes Tilson were on the program.

OREGON

Oregon Home Economics Association. The Association met at the Lincoln High School, Portland, on December 28. A report on the relation of the cafeteria and the home economics departments in Oregon schools was presented by Elizabeth Bourhill of Roseburg, based on questionnaires sent out by the state department of education in an effort to determine existing conditions and to work out a plan whereby hot lunches might be served by the home economics classes without detracting from the educational value of their work. Georgia English of Marshfield reported on a survey course in homemaking for junior high schools. Other subjects presented were: "Home Economics for Boys" by Mrs. Lillian Miller of Milwaukee; "Home Economics Exhibits and Assembly Programs" by Iona Harriman of La Grande; and "Home Economics Clubs as a Means of Selling Home Economics" by Mrs. Ruth Forest, Sandy.

This year's membership is the largest for several years—92 teachers and 7 clubs. The latter are at Sandy, St. Helens, Ontario, Salem, McMinnville, Astoria, and Pendleton, and all are affiliated with the American Home Economics Association.

Oregon State College. Home Economics Club speakers this fall have included Henry M. Leland, who gave an inspirational talk on the influence of the pioneer mother, and Marjorie Heseltine, formerly chairman of the home economics in business section of the American Home Economics Association, who spoke on opportunities in business for home economics graduates.

Recent out-of-state visitors have included Dean Ruth Wardall, University of Illinois, and Persia Campbell, research officer of the Treasury Department, Sydney, Australia.

New members of the home economics staff are Elsie E. Jacobson and Anna Price in the clothing and textiles department; Wilma Anderson and Marjorie Kirby in the institutional management department; and Agnes Kolshorn in the foods and nutrition department. Estelle Calkins is a fellow in household administration, and Frances Clinton, in foods and nutrition.

A series of parental conferences is being held in counties with home demonstration agents. Speakers include members of the staffs of the home economics and physical education departments.

A home economics short course in electrical equipment was held February 13, 14, and 15. Out-of-state speakers included Eloise Davison of the National Electric Light Association; Genevieve Callahan, editor of the *Sunset Magazine;* and A. H. Ryan, of the Hoover Company.

PENNSYLVANIA

Pennsylvania Home Economics Association. A joint meeting with the Pennsylvania State Education Association was held at New Castle on December 27. Irene E. McDermott, president of the Association and director of the household economy department in the Pittsburgh public schools, presided. The program took the form of a "clinic" on subjects suggested by members, presented by a committee, and then placed before the meeting for general discussion.

At a short business session which followed, the secretary was instructed to send $10 from the treasury to the group of supervisors and teachers of home economics who have arranged national conferences in connection with the Department of Superintendence of the National Education Association, and notice was given of the third such conference to be held at Atlantic City, February 24 to 25. The president announced that effort would be made to secure the largest number of new members ever enrolled in Pennsylvania.

Announcement was also made of the sectional meeting of the Western Pennsylvania Education Association which is to be held in Pittsburgh on April 12 with Emeline S. Whitcomb as speaker.

State Teachers College, Indiana. Ruth M. Scott and Ruth V. Brenneman are new members of the faculty.

Chester County. The Chester County Health and Welfare Council, of which Mrs. John R. Hollinger of West Chester is chairman, reports a program for several departments, covering many activities, and calling for a budget of $24,000 in 1930.

Williamsport. During American Education Week last November, Mrs. Beula Manley, director of home economics in the Williamsport High School, arranged that senior girls who wished might consult with leading business and professional women of the city about vocational opportunities. Questionnaires about their home, church, social, and community activities and their future plan were filled out in advance by the girls for the benefit of the advisers, and the latter were given written suggestions as to ways of approaching the girls. It was understood that each adviser would be ready throughout the year to advise with her girls about their vocational plans. Both girls and advisers were enthusiastic over this "vocational inspiration movement." There was a long list of vocations in which the girls were interested, but the most popular seemed to be nursing, business, teaching, journalism, physical education, beauty culture, and music.

SOUTH DAKOTA

University of South Dakota. Home economics opportunities at the University have been increased this year through the offering of a curriculum for those interested in dietetics and other types of institutional work. Three home economics courses, the homemakers' course, the teacher-training course, and the institutional course, now lead to a B. S. degree.

Members of the faculty and the student club are working on plans for the second Home Economics Week, observed annually the last week of April. This year Better Homes Week and May Day—Child Health Day programs will be features of the week.

Elizabeth Walker is a member of the teacher-training department this year.

The student club is serving dinners and banquets to earn money to send a delegate to the Denver meeting in June.

TENNESSEE

Tennessee Home Economics Association. The annual meeting will be held in Nashville, April 17 to 19. Speakers will include Rachel Stutsman, psychologist, Merrill-Palmer School, and Martha Koehne, professor of nutrition, University of Tennessee.

Gladys Smith of Peabody College, formerly president of the Association, is now Mrs. Rex Rice of Greenville, South Carolina. Bess L. Henderson, vice-president, is acting president for the remainder of the year.

University of Tennessee. On January 10 and 11 the members of the home economics staff were hostesses to a conference on parental education and child welfare conducted by Anna E. Richardson of the American Home Economics Association. About forty-five college teachers and extension specialists accepted the invitation. Those present from outside the state were Rachel Stutsman of Merrill-Palmer, Rebecca Cushing, state supervisor of North Carolina, and Loyette Webb, head of the department of home economics of the State Teachers College, Hattiesburg, Mississippi. The guests at the conference were delightfully entertained by the University home economics staff with luncheons and sight-seeing trips around the city of Knoxville.

West Tennessee State Teachers College. The home management house, opened in September, is in charge of Bess L. Henderson, head of the home economics department, with Alice M. Chappell as her assistant. West Tennessee is the first of the state teacher colleges to have a house of this type.

State Department of Education. Marie White, formerly state supervisor of home economics, is now agent in home economics education with the Federal Board for Vocational Education. Margaret Browder, formerly of the University of Tennessee, has been made state supervisor.

TEXAS

College of Industrial Arts, the Texas State College for Women. The home economics education department and the home economics department have cooperated during the year in a local program of adult education. Units thus far given have included problems in clothing selection and construction, buying problems, food management, service of food, and child training. Units on clothing construction and selection, and redecoration and rearrangement of the home will be offered during the spring.

Mrs. Edna Storrs Bates is on leave of absence for the spring semester to continue work at Teachers College, Columbia University. Her position is being filled by Rosalie Wolfe of Miami, Florida.

The Texas State College for Women, in cooperation with the southwestern division of the National Electric Light Association, conducted a short course in March, a feature of which was an exhibit and demonstration by experts of electrical equipment, including electric refrigerating, lighting, and other household appliances.

University of Texas. Mary E. Gearing, director of home economics, has been appointed a member of Dr. Stanley's committee on the Family and Parental Education in the section on education of the White House Conference on Child Health and Protection.

WASHINGTON

State College of Washington. Hildegarde Kneeland of the United States Bureau of Home Economics visited the

campus on January 21. She talked to the home economics girls on the opportunities open to them in the field of research.

Evelyn H. Roberts is doing work under Purnell funds on energy metabolism during laundering processes.

VeNona Swartz is working on the thermal efficiencies of various oven utensils. Four advanced students are assisting with the work this semester.

The nutrition division, through feeding experiments on white rats, is investigating the vitamin A content of apples grown on irrigated soil.

University of Washington. Two new graduate courses will be offered next year, research in institutional management and historic textiles.

The collection of European brocades, embroideries, laces, pottery, brass, prints, and books, assembled by Miss Denny on two recent trips abroad, was exhibited to the public in January.

Washington State Normal School, Ellensburg. Frances B. Skinner, who has been on leave of absence during the past year for study at Teachers College, Columbia University, and for travel abroad, will return at the beginning of the spring quarter to resume her duties as head of the home economics department.

Muriel G. McFarland, supervisor of student teaching in home economics and dean of women, has resigned to become state supervisor of home economics in Idaho and associate professor of home economics at the State University.

The home economics department is now housed in the new classroom building which includes laboratories for foods and nutrition, clothing and textiles, home management, a dining room and kitchenette for individual and small group work, offices, and storage rooms.

The revised curriculum in home economics, introduced this year, makes it possible for students who expect to teach home economics to take a major course of either three or four years. The specific aim of the curriculum is the training of home economics teachers for grade and junior high schools. Various courses in home economics are offered to students not majoring in that department, child development and the beginning courses in foods and clothing being considered particularly helpful.

WEST VIRGINIA

Conference of Vocational Home Economics Teachers. Teachers of home economics, representing 26 full-time departments of vocational home economics, attended the eighth annual Conference of Vocational Teachers of Home Economics called by the state supervisor of home economics at West Virginia University from March 7 to 8. This annual conference is carried on through the cooperation of the State Board of Education and the home economics department of West Virginia University. The first Conference of Junior Homemakers was also held at this time; each vocational school sent one representative selected by means of a score card which the teachers and pupils prepared last year.

Jean E. Richmond, assistant professor of home economics education at West Virginia University, was chairman of the program committee. Ruth D. Noer, dean of women at the University, presided at the morning session on March 7; Jean E. Richmond, at the afternoon session; and Lena M. Charters, at the session on Saturday morning. On Friday afternoon the junior homemakers were guests of the Morgantown High School Home Economics Club at the City High School, and on Saturday

morning they were taken on a tour of the University.

Marshall College. Isabella Wilson, head of the department of home economics, will be on leave of absence during the summer session, and Katharyn Tissue will act in her place.

WISCONSIN

University of Wisconsin. - The annual "Farm Folks" Week was held at the University from February 3 to 7. The women's program, held every afternoon except Friday, was well attended, 783 women being registered. Of this number, 349 were rural women. Among the speakers from out of town were Jessie Hoover of the Montgomery-Ward Company, Ruth Chambers of the Monarch Range Company, Flint Grinnell of the Chicago Better Business Bureau, Inez Willson of the National Livestock and Meat Board, Dr. Amy Daniels of the Iowa Child Welfare Research Bureau in Iowa City, and George Rector, director of cuisine for the Chicago, Milwaukee, and St. Paul Railroad. A reception for out-of-town registrants was held by Mrs. Kohler at the Governor's Mansion on Wednesday afternoon.

Eunice Horn, '29, has been appointed home demonstration agent at large and will work under the direction of Mrs. Nellie Kedzie Jones, state leader of home demonstration agents.

Dean Mathews of the home economics department of Purdue University was a visitor at the University on February 3. She came up to attend the Honorary Recognition Service on Monday evening, at which time her aunt was one of those honored for distinguished service to agriculture.

OUR CONTRIBUTORS

LOLA M. CREMEANS is a graduate of the University of Illinois who is now in charge of home economics at the Alaska Agricultural College. Mr. OTTO WILLIAM GEIST is a Bavarian by birth who was in the United States military service on the Mexican border in 1915 and later in the American Expeditionary Forces. After the war, he became a mining prospector in Alaska, and it was while he was at the Alaska College of Agriculture for a mining short course that he became interested in President Bunnell's efforts to build up an Alaskan museum.

HARLEAN JAMES's active work in civic organizations and her writings on land and city plannings have made her a recognized authority on these subjects. A graduate of Stanford University, she occupied executive positions with the Women's Civic League of Baltimore, the housing section (Labor) of the Council of National Defence, the United States Housing Corporation, and was for a short time general manager of the government hotels for women in Washington before she became executive secretary of the American Civic Association, a position which she occupies at present, and with which she combines that of executive secretary for the Federated Societies on Planning and Parks. She is now chairman of the Women's Joint Congressional Committee, on which she represents the American Association of University Women.

JESSIE A. WINCHELL, one of the "three Winchells," is a bachelor and master from Teachers College, Columbia University, who has more recently spent 18 months in study as a Laura Spelman Fellow. She taught home economics in public and private schools in New York State and at the University of Vermont, was state supervisor of

home economics in the latter state, director of parental education in Monmouth County, New Jersey, and associate professor of parental education at Rutgers University before going to Rochester, New York, where she is director of home economics education.

RUTH O'BRIEN was described in the March JOURNAL as too well-known to our readers to require introduction. For the sake of those who are not familiar with her scientific antecedents, it may be said that she received her bachelor's and master's degrees from the University of Nebraska, has done advanced work in the chemistry of textiles at the University of Chicago, and was on the staff of the chemistry department at Iowa State College before she came to the Bureau of Home Economics in 1924 to organize the division of textiles and clothing.

ONICA L. PRALL and THOMAS F. VANCE were both at Iowa State College, Ames, when the study here described was made. Miss Prall, who was then working for her master's degree, is now in charge of the child development, home management house work at Hood College, Frederick, Maryland. Dr. Vance, who holds the master's and the doctor's degrees from the University of Iowa, is professor of child psychology on the child care and training staff at Ames.

KATHERINE W. HERRON. Mrs. Herron is a person long known to New Englanders interested in such enterprises as home information centers, as well as to visitors to the section of the Exposition at Springfield, which she here describes.

MATHILDE C. HADER appeared also among "Our Contributors" in the January JOURNAL.

ELLA M. CUSHMAN's professional training was gained chiefly at Teachers College, Columbia University, and Cornell University, and her experience has included public school teaching, supervising, and work as extension specialist, her present position being that of extension specialist in household management.

D. EARL DANIEL has been in the Presbyterian ministry for eleven years, the past four at the Memorial Presbyterian Church in Dayton, Ohio. He is also editor of the Presbyterian Church Calendars.

ALICE E. RYDER, a native of New Brunswick, Canada, was for some time at the head of the household science department at Mount Allison University, Sackville, New Brunswick, before going to her present position as instructor of home economics at New York State College for Teachers, Albany. She received the M. S. from the University of Chicago last June.

HAZEL E. MUNSELL. After undergraduate and graduate work at Mount Holyoke College, Miss Munsell taught for two years at Pratt Institute, Brooklyn, took the master's and doctor's degrees at Columbia University, and in 1924, established the nutrition laboratory in the Bureau of Home Economics, of which she is still in charge. On her scientific staff is CHARLOTTE H. MILLER, who studied as undergraduate and graduate at the University of Pittsburgh, is a graduate of the course in dietetics at the Massachusetts General Hospital, Boston, and was chemist with commercial gas and food companies before coming to the Bureau in 1928.